Lectures
ON
CASES OF FIBROID PHTHISIS.

Delivered at the London Hospital,

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Reported for THE LANCET: *revised and rearranged by the Lecturer.*

(WITH COLOURED ILLUSTRATION.)

LECTURE I.

GENTLEMEN,—Drs. Hadley and Chaplin have brought here for our consideration to-day a curious case of pulmonary disease. The patient is twenty-seven years of age and is now suffering from cough, expectoration and shortness of breath. He says he has been ill as long as he remembers; that though never seriously ill, he is sometimes worse, sometimes better; but that during the last year he has been worse than ever before. Nevertheless, he does not look ill; but for his cough he does not feel ill; he is not losing flesh; has no elevation of temperature and no other constitutional disturbance.

Examination of the chest.—On inspecting the chest you will see that the heart is beating in its normal place, that the right side of the chest is somewhat contracted and moves less freely than on the right, that the veins of the neck do not entirely empty when the patient inspires, and that the left side is rather lifted than expanded when he takes a deep breath. Confining our examination for the present to the left lung, there is almost everywhere increased vocal fremitus and dulness of percussion. On one spot below the angle of the scapula the dulness is accompanied by a somewhat hollow resonance, which suggests, but does not prove, the existence of a dilated tube or cavity. The auscultation one hears in the apex of the lung, hollow, bronchial breathing, coarse, moist crepitation of a slightly metallic character and increased vocal resonance, but no distinct bronchophony. From the cavicle to the base similar vocal sounds are to be heard, varying a little in intensity, from place to place. In the back of the lung we find in the supra-spinous fossa diminished tactile and vocal resonance, dulness to percussion, bronchial breathing and coarse, moist crepitation. About the lower angle of the scapula, where I before noticed a sort of tubular dulness, there is loud bronchophony of a metallic character. From this point to the base there are to be found slightly increased vocal fremitus, decreasing dulness and coarse, moist crepitation or crackling. A careful examination of the right lung elicits no physical sign of disease of sufficient importance to be dwelt upon.

Examination of other physiological systems.—Here, then, plainly enough is some chronic chest trouble and before endeavouring to interpret it let me call your attention to the manner in which the other physiological systems of the organism are behaving in its presence. The cardiac impulse is felt in its normal place, the area of dulness, especially on the right side, is a little increased, but the cardiac action is regular and the cardiac sounds are distinctly heard and unaccompanied by any murmurs. The arteries are soft and moderately full; pulse is about 80; the peripheral circulation, however, is somewhat feeble, for the extremities are cold and the fingers are purple and a little swollen. The digestive system is acting healthily; the urine is low in density but free from albumen; no evidence of disorder or disease in the nervous system is discoverable. Recurring to the patient's symptoms, it is particularly to be noted that the expectoration is difficult and the cough by which it is brought up is often paroxysmal and sometimes ends in vomiting. Finally, let me remind you of the patient's asseveration that "but for his chest trouble" he would be quite well.

Summary of the facts.—Substantially we have now elicited all the facts which are necessary for the framing of the diagnosis of the patient's malady. Certainly he has got an extensive consolidation of the left lung; certainly also he has got a cavity or dilated bronchial tube in the organ at the part corresponding to the inferior angle of the scapula. What is the nature of this affection? Consider how long it has existed and how little are its constitutional defects. There is no wasting or sweating, no fever or hurry of circulation, no loss of strength or grave disturbance of digestion. Consider furthermore that whilst almost the whole of the left lung is consolidated, the right lung remains substantially unaffected. Plainly this affection is not a common one and I doubt if any acquaintance, however close, with your text-books would enable you to determine its exact nature.

The nature of this affection.—Is the consolidation malignant? Is it tubercular, or is it, as I believe, fibroid? When we remember that the patient is young, that his malady has lasted for years, that it is confined to one lung, the normal limits of which it has not exceeded, that it has produced no progressive loss of strength or colour and that there is no fever; furthermore, when we consider the patient's allegation that but for his cough he would be well, we shall find in this constitution sufficient justification for discarding the idea of malignant disease being the cause of his symptoms. Is the consolidation tubercular? In these days this is a somewhat difficult question to answer, but I think I shall be within the limits of an accepted generalisation if I say that a consolidation with the occasional presence in it of tubercle bacilli is tubercular, and that one in which no tubercle bacilli are ever found is not so. There are, indeed, some enthusiastic pathologists who will declare that every chronic consolidation of this sort, not malignant, is, even without bacilli, tubercular. But here the enthusiasm of a theory has undermined the judgment of facts and I will not follow them so far. Now the sputa of this patient have been examined over and over again and at various times of the day, but no tubercle bacilli have been found, though the searchers have been experienced experts. According, therefore, to the modern theory of tuberculosis as generally received, this consolidation of which we are speaking is not tubercular. Furthermore, I may draw from the older methods of pathological reasoning, happily not yet extinct, an additional argument against the tubercular nature of this consolidation. I have examined over more than 4000 bodies, and I have never yet found one lung wholly invaded by what would have been accepted as tubercular lesions without evidence of the existence of tubercle, either in the other lung or elsewhere. Well, then, if this consolidation is not malignant and not tubercular, what is it? Doubt on the point is no longer possible. It is fibroid disease of the lung. We thus conclude that the cause of the patient's malady resides in the fibroid consolidation of the lung accompanied with what I shall for the moment assume to be a cavity therein.

Definition of phthisis.—Nosologically this corresponds to our generic definition of phthisis, for phthisis, as I have always taught you, is that assemblage and progression of symptoms due to the ulcerative or suppurative destruction of more or less circumscribed non-malignant deposits in the lung. I shall not contend that this definition is perfect, but I do contend that in the present state of our knowledge it is the best that you can produce, for it has the fewest drawbacks and the greatest advantages of any other definition of which I have read or heard. Observe that this definition is a generic one, for it assumes that there are different consolidations and that therefore there are varieties of phthisis; and if the critical study of these alleged varieties of phthisis proves that they are different in their origin, in their progress, in their relations to the organism, in their duration, in their response to treatment and in their issues it is important—nay, it is necessary to the advancement of the practical side of our art that such varieties should be described and named.

Acute tuberculosis.—Observe, in the next place, that this definition of mine excludes tuberculosis, for acute tuberculosis differs in many respects from phthisis and especially in this respect: that it is invariably an acute disease. It comes on somewhat suddenly, often in the midst of apparent health, like an ordinary fever; it runs a febrile course; it deposits throughout the organism small miliary bodies called tubercles, which in the lungs almost never give rise to cavities and at the end of six weeks or two months it puts an end to life. Now, this is not a history of phthisis, and for reasons which I will not now stop to state it has been of set purpose excluded from my definition. When I am told that the anatomical structure of the tubercle of acute tuberculosis differs in no material particular from the anatomical structure of the tubercle of chronic phthisis, I will reply that the anatomical structure of a morbid product can never be made the true criterion of the disease which produces it. For the true criterion of the nature of a disease lies in its life history and not in the anatomical forms whereby it finds but a

partial expression which may be shared by other and different diseases.

The modern theory of tuberculosis.—Here it will be necessary for me to make a short digression in order that I may bring before you in greater detail the modern theory of tuberculosis. This theory is based upon the brilliant researches of Dr. Robert Koch. He discovered in all tubercular and scrofulous consolidations the microphyte, the tubercle bacillus. He discovered that this bacillus could be grown and multiplied outside the body; that by the inoculation of animals with the descendants of pure cultures of this microphyte tuberculosis could be produced and that from the acute tuberculosis thus engendered other animals could be similarly affected. He went still further and he showed that in phthisis these tubercle bacilli were always present; that they were capable through inoculation of producing tuberculosis in animals and that the tuberculosis so produced could be propagated downwards for several successive generations. Here I must ask you to observe that the disease produced by the inoculation of tubercle bacilli is acute tuberculosis and that there is no conclusive evidence to show that the disease which I have defined as phthisis is ever so produced. I do not deny that there is any close organic alliance between acute tuberculosis and phthisis, but I do earnestly contend that there is such a fundamental organic difference between the conditions of which they are respectively the expressions, that the advancement of our art requires that this difference should not be overlooked. Now this brilliant discovery of Robert Koch and the theory based thereon make it plain that there are two factors in the evolution of tuberculosis—the tubercle bacillus and the soil on which they grow. For it is certain that the tubercle bacilli will not flourish in every soil and that the soil which at one time has favoured their propagation will at another time cease to do so.

Tuberculin.—I presume you are all familiar with the immense efforts that have been made during the last two years for the discovery of some agent which would destroy tubercle bacilli and so bring about the cure of phthisis. You doubtless all know how much attention has been devoted to the bacilli and how little to the soil in which they grow and doubtless you know also how unhappily these efforts have ended. At present it cannot be pretended that either Koch's tuberculin or any other similar agent which has been tried for the destruction of the tubercle bacilli has produced a single authentic cure of phthisis. To my mind the reason is obvious and conclusive; for the more I study the phenomena of phthisis the less becomes my expectation that any agent will be discovered by which the tubercle bacilli will be killed and the progress of phthisis stayed.

Reaction of the organism to irritants.—Why do I say so? Here I will bring you to the consideration of one of the most important facts in connexion with all such cases as this. Phthisis, as I have defined it, does not consist in any specific action of the bacillus or of the products of its living action. It consists in the reaction and in the nature and character of the reaction of the tissues of the organism to the irritations which the bacilli and their products create. Now organisms are different and they often respond very differently to the same irritations and thus it happens that these tubercle bacilli give rise to products of irritation and therefore forms of phthisis which are different from each other, which have their origin in different states of constitution, which have a different assemblage and progression of symptoms, which respond differently to their environments, which pursue a different course and which issue in different structural results.

The soil.—Every bacillus implanted in the lung produces by its irritations at least two different forms of structural products, the fibroid or the pneumonic. If the fibroid dominates, the course of the resulting disease is slow and cold. If the pneumonic dominates, the course of the resulting disease is usually rapid and always febrile. And if the pneumonic product dominates and if its elements are composed of rapidly growing and rapidly decaying epithelial-like cells, and if the masses produced by their agglomeration assume a caseous character, there is developed a form of disease known as galloping consumption, which has an individuality of its own sufficient to distinguish it from every other form of phthisis. Now, if all these things are so, would it not be infinitely better for us to spend less of our time in what seem vain attempts to destroy these microphytes and more of our time in studying the character of the soil in which they will or will not grow? For all my experience points to the conclusion that it is mainly, if not entirely, through the influences which we may become able to exert upon the soil that we may best hope to control or to stay the progress of phthisis.

Scientific retrogression.—Now as the structural products of tubercular bacillary irritation in the lung vary in form and structure and as each variety has a different life-history from the other and as these life-histories are most diverse, I regard it as a most scientific retrogression to slump them together and obscure their organic distinctions in one name; for if it be just to say—and I contend that it is—that these varieties of phthisis differ in their origin, in their course, in their complication, in their response to their environments, in their duration and in their issues, then surely it is not merely just but necessary to the progress of our art that they should be separately recognised and separately named.

Non-bacillary phthisis.—I have one thing more to say. It has been alleged by Koch—and it is generally believed in London—that every case of phthisis, as I have defined it, is microbic, is associated with and dependent upon the presence and the action of tubercle bacilli. For my own part I presume to deny the allegation and to contend that whilst the great majority of cases of phthisis are bacillary there is a considerable minority of cases which are non-bacillary, in which at no period of their history can bacilli be found. To this denial it is sometimes replied that if the bacilli were not there when you sought for them they were there when you did not, or if they were very enthusiastic and proportionately polite they will say that you were unable to find them and that they were certainly there. Some years ago I had in my own wards three cases of what I designated as non-bacillary fibroid phthisis. I invited two or three of my more distinguished contemporaries to examine these cases and to demonstrate the existence of the tubercle bacillus in them. They failed and, justifying their failure, said, "These are quite exceptional cases and do not break down our generalisation"; but, gentlemen, it is just the exceptional cases of this kind that demand the most careful consideration, for although they do not bear immediately or greatly upon our practical clinical teaching, they bear sufficiently upon it to justify me in calling your attention to it at this time.

Cavity or dilated bronchus?—Now let us return to our patient. To what condition are we to ascribe the physical signs here near the lower angle of the scapula—to a dilated bronchus or to a cavity in the lung? The physical signs of themselves will not enable us conclusively to distinguish between them and yet it is of supreme importance that the distinction should be made, for if we are dealing with a cavity the future of the patient will probably be one thing; if with a dilated bronchus, probably quite another. A careful microscopic examination of the sputa will enable us conclusively to solve the problem. If we find in the sputa several connected areolæ of elastic tissue we shall be enabled to say without hesitation that there is a cavity in the lung, and not only that but, according to the conditions of the areolæ, we may be able to say whether the cavity is old or new, stationary or rapidly progressive; but if instead of connected areolæ of elastic tissue we find leashes, threads, or bands of elastic tissue we shall not be justified in stating that the cavity exists in the lung, for such forms of elastic tissues may come, and do often come, from the bronchial walls. Now, this patient has areolæ of elastic tissue in his sputa, wherefore he has a cavity—he has a cavity in a fibroid consolidation and his malady is fibroid phthisis.

The diagnosis.—But we have still another question to determine concerning the patient before our diagnosis is complete. Is this phthisis bacillary or non-bacillary? Both Dr. Hedley and Dr. Chaplin have examined the sputa on many occasions with the utmost care and have never been able to discover the presence of tubercle bacilli.

Not a question of terms.—I have been labouring hard to bring you up to this particularity of diagnosis—this bacillary fibroid phthisis. Is the labour in vain? Have I been wasting your time to carry you to no other issue than a mere distinction of names, or does not this particularity of diagnosis carry you to a distinction of *things* of which it is of the utmost importance for you to know. This is my belief; for again I earnestly contend that without recognising the fundamental verity of these distinctions you will fail to recognise the varying characters of the soil in which the bacilli grow, the different nature of the structural changes which they effect, and therefore the chief factors concerned

in the evolution of phthisical lesions of the lung. The diagnosis which I have made determines, in some measure at least, the prognosis. For if the diagnosis had been bacillary tubercular phthisis, then the duration of the patient's life must have been limited to a very few years. But the diagnosis being fibroid and non-bacillary, the patient, barring accidents, may achieve the fullest term of years allotted to man.

Importance of the prognosis.—I know of no capability in a doctor which contributes more to usefulness in his art and success in practising it than the capability of forming an accurate prognosis; and of no capability more difficult to acquire. For the prognosis does not determine merely the direction of the patient's future life, but it determines in many and important ways the lives of households and of families. It cannot be otherwise than of supreme importance to all persons connected with a sick man to know, with some approach to certainty, whether he is likely to live for two years or for thirty; and a careful study of the natural history of the varieties of pulmonary phthisis will enable you with comparative ease to form a correct prognosis of individual cases of each variety.

Illustrative cases.—Dr. Hadley will remember how some years ago, to illustrate this subject of prognosis in the varieties of pulmonary phthisis, I brought before the class of clinical medicine two young girls about eighteen years of age, each suffering from a different variety of phthisical disease. The first was tall, pale, florid, thin, with finely cut features, dark eyes, languid manners, and an expression of serious illness. Her chief complaint was weakness and a recurrent sense of almost insupportable exhaustion. She had a short cough, with scanty mucoid expectoration in which tubercle bacilli were found; she became breathless on exertion; her heart was small and beating over 110 times a minute, her evening temperature reaching 102°; she had morning sweats and the physical signs of tubercular disease wereconfined to some moist crepitations in the summits of both lungs. The second girl was short, fair, coarse-featured, fat and healthy-looking. Her only complaints were cough and muco-purulent expectoration and breathlessness on exertion; her appetite and digestion were good; she had no fever; and she was not only full of activity, but able for work. She had extensive consolidation and contraction of the left lung; the heart, which was large and otherwise healthy, lay in the middle of the left axillary region; the pulse was about 70 and the breathing about 20 per minute. There were no signs of disease in the right lung. I pointed out that the first girl had few physical signs of pulmonary disease, but profound constitutional disturbance; and that the other, with signs of extensive pulmonary disease, had no obvious constitutional disturbance of any kind. I further pointed out that whilst the former case was one of advancing tubercular disease, which would probably terminate within a year, the latter was one of fibroid disease, not incompatible with the longest duration of life. The tubercular girl soon afterwards was seized with diphtheria and died and the autopsy revealed the presence of grey tubercles in the summits of both lungs. A few months ago I learned that the second girl was alive and well. Only yesterday I saw, with Dr. Ford Anderson of Belsize-park, a gentleman, seventy-nine years of age, in whom I discovered a contracted fibroid lung and a displaced heart. He had no pulmonary symptoms at the time and was seen for a malady of another sort, but on cross-examining him I elicited the fact that for fifty-five years he had something remarkable in his left lung, of the nature of which no one could give him any satisfactory account. Just one other illustration of the duration of one of these varieties of pulmonary phthisis and I shall have done. Some years ago I was called into consultation with Mr. Burton to see a gentleman over eighty years of age, who was suffering from pulmonary phthisis and reported to be very ill. He was an Irishman and full of Irish humour. It was not difficult to see that he was striving to make himself appear worse than he really was. He was suffering from a recent bronchial catarrh, grafting upon a long-standing lesion of the right lung. He was able to take food; he had no elevation of temperature and no hurry of circulation. The urine contained a small quantity of albumen with no casts. The right side of the chest was greatly contracted and the impulse of the heart was felt beating above the right nipple. Nothing was found in the left lung beyond mucous râles and on its posterior base some moist crepitation. He declared himself to be very ill and expressed a doubt if he could live out the day. I bantered him a little and then he asked me how long I thought he had been ill. I replied, "Perhaps fifty years." "You are quite wrong, doctor," replied he, his face beginning to brighten with humour, "I have been ill sixty years and here is the proof of it." Whereupon, he took from under his pillow a document signed by Sir Philip Crampton and Dr. Graves certifying that the patient was labouring under phthisis and not likely to live.

Factors in prognosis.—Returning again to the case under consideration, we have to settle the question of prognosis. What is the course which it will probably pursue? What are the possible perils into which the patient may fall? How long will the disease last before it puts an end to life? The answers to these questions demand close and varied consideration of the moral as well as of the physical characteristics of the patient. In the first place, the patient's malady is not hereditary and so far as my knowledge extends fibroid phthisis is never so. In the second place, the disease does not exhibit the marks of a diathetic affection. It is confined to one lung; incidental acute affections possess their common characteristics and run their usual course; the disease has continued for years without impairment of the general health and at this moment the patient is free from constitutional disturbance. Furthermore, the patient is a man of regular and temperate habits, he seems to be "right-minded" and he leads an occupied and a tranquil life. All these considerations contribute to justify a favourable prognosis and to warrant us in saying to the patient and his friends that, barring accidents and assuming that he will continue to walk in the ways of physiological righteousness, he may live for many years and die at last from some other affection. But in giving such a favourable prognosis you must clearly accompany it with the necessary qualifications. It is never pleasant and it is sometimes humiliating for one patient whose duration of life you have estimated at a quarter of a century to die within two years and for another patient whose life you have estimated at the lesser value to live for years and pester you with annual apologies for being alive. This patient is liable to many complications which may either permanently damage the general health or even put an end to life. Among the acute complications I will mention bronchitis, pleurisy, pneumonia and nephritis. Contrary to theoretical expectation, these acute complications are usually well borne, pursue a favourable course and seldom leave serious mischief behind. Of the chronic complications to which our patient is exposed I may specify cardiac hypertrophy, gastro-hepatic catarrh, diarrhœa and albuminous urine. Again, whilst it is certain that some cases of fibroid phthisis never become in the modern sense tubercular, it is equally certain that others do—that, in different words, the living soil becomes so altered in its characters that the tubercular bacilli become capable of growing and multiplying therein. Furthermore, hæmoptysis is not an unfrequent complication of fibroid phthisis both in the bacillary and in the non-bacillary varieties. Lastly, let me warn you that the favourable prognosis which I have given of our patient could not be given of any other patient who, in all other conditions equally favourable, had tubercular bacilli in his sputa. In any circumstances whatever the prognosis of fibroid phthisis is more favourable than the prognosis of tubercular phthisis; but the presence in the fibroid lung of bacilli—which may grow, multiply and emigrate to all parts of the body—adds an element of great gravity to the prognosis of a case otherwise in all respects favourable.

In my next lecture I purpose bringing before you a series of cases of fibroid phthisis that you may be enabled to compare one with another and become familiar with the varying aspects which they assume To Drs. Hadley and Chaplin, who have been for some time engaged in a critical study of the varieties of phthisis, I owe the privilege of bringing these cases to your notice; and, indeed, but for their able and indefatigable help these clinical demonstrations of fibroid phthisis could not at present have been made.

[We would direct attention to the coloured lithograph which accompanies this lecture and which illustrates very clearly the essential features of the disease which forms the subject of Sir Andrew Clark's Lectures.—ED. L.]

ABSTRACT OF A

Lecture

ON

BRUISES OF INTERNAL ORGANS.

Delivered at St. Bartholomew's Hospital,

BY SIR WM. S. SAVORY, BART., F.R.S.,

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GENTLEMEN,—We are familiar enough with bruises of superficial parts, but perhaps less attention than they deserve has been given to bruises of internal organs, for contusions of viscera, although noticed in our works on surgery, receive but little attention in practice and are perhaps commonly recognised only in their severer forms. Yet it is obvious that bruises of important internal organs must as a rule be in their nature and clinical history far more mischievous than the bruises which are so frequently seen in and immediately under the skin. One reason of the comparative neglect of their study is no doubt to be found in the fact that so little attention is usually called to their existence after death. If observed at all, they are passed by with slight notice in the search for injury of a graver nature. Illustrations of simple contusions are very rarely to be met with in our museums—hardly ever, except in conjunction with, and as a part of, some more serious lesion. The absence of such illustrations, which is, I think, to be regretted, is due, in part at least, to the fact that the characteristic appearance is difficult to preserve. Of course much depends on the colour, which rapidly fades on exposure to light. There is in our museum a portion of the left ventricle of the heart of a child, which at present shows very plainly and beautifully two or three small bruises of the muscle. First let us glance at the nature and clinical history of bruises and then let us shortly review, in the way only of illustration, without any attempt at a full study, bruises of some of the more important internal organs. Bruises of course, like almost all injuries, vary widely in degree. In its usual form bruising means rupture of portions of tissue, including that of the minuter vessels. Hence hæmorrhage and extravasation to which the characteristic stain is due. But one can imagine bruises so slight as to involve little or no rupture; while, when the injury is so severe as to produce visible laceration of texture, the simple bruising of parts becomes merged into the effects of the graver lesion. It would be generally said that you cannot have bruising without laceration—that, in fact, laceration is an essential part of bruising. Although this may be conceded from a pathological point of view, yet clinically it is of some importance that the distinction should be drawn. In simple bruising there is not necessarily laceration visible to the naked eye—no distinct gap or rent of the injured substance,—the rupture of vessels is made apparent only by the ecchymosis. The amount of blood extravasated in bruises of course varies widely, and depends not only on the nature and extent of the actual injury, but on the vascularity and delicacy of the structure which has sustained it. This hæmorrhage, when copious, often masks the other effects of bruising. Just as when the substance of tissue is largely torn we refer to the rent or laceration and not to the bruise, so when there is copious hæmorrhage either in the form of a distinct collection of blood in the injured part, which is called "hæmatoma," or when it escapes into adjacent cavities, we speak and think of this rather than of the injury on which it depends.

I propose now to consider cases of what may be called "simple bruising," in which, although there are necessarily laceration of tissue and extravasation of blood, neither the rent nor the hæmorrhage constitutes a prominent feature of the injury, but in which, nevertheless, the damage done is, I venture to think, worthy of more attention than is usually given to it.

Bruises of the brain are, I believe, far more common than is usually supposed and worthy of much more attention than they have hitherto received. In works on surgery contusion of the brain obtains a passing notice and occasionally, as at St. George's Hospital, a specimen to show contusion of the brain is to be found in our museums; but in practice it is for the most part included in the more vague and comprehensive condition of concussion. The relation of contusion to concussion of the brain presents some points of great interest. On what happens in a case of concussion pure and simple we are not perhaps quite clear; certainly, we are not agreed, whether it be due to some sudden and temporary change in the minute vessels in the way of spasm, or whether—which I venture to think is more probable—it is due to some more subtle and profound molecular disturbance of the brain substance itself. As a matter of fact we know that cases of simple concussion severe enough to prove fatal are so very seldom seen that some even doubt whether they ever actually occur. That, however, concussion of itself pure and simple may prove fatal, and that more frequently, when death from injury to the brain is attributed to other causes it is really due to concussion I have no doubt and the facts and arguments for this belief I have given elsewhere. So far, however, as the brain itself is concerned, the chief changes that are associated with severe concussion are contusion or bruising. In the worst instances this is accompanied by laceration of the brain substance and copious hæmorrhage, so that the blood collects into a distinct mass, but many cases occur, short of these, in which there is neither visible laceration nor blood-clots, but simply a bruised condition of the cerebral substance and this perhaps in a situation opposite to the part struck. When in such an instance a section of the brain is made, the white or grey matter, as the case may be, exhibits a patch or patches, pink or red from bloodstain; and when these are more minutely examined, especially after water has been allowed to flow freely over the surface, numerous minute points or specks of blood appear scattered over the stained area. In these places the substance of the brain shows the effects of bruising. There is here some rupture of substance and some extravasation of blood, but no visible laceration and nothing which would be called hæmorrhage. There cannot, I think, be any reasonable doubt that this condition frequently occurs as the result of injury to the head short of any graver effect and that such cases usually terminate in recovery. Under the head of concussion of the brain, cases are described in which recovery is not rapid and direct, but more prolonged and circuitous, in which the patient passes days and even weeks in a state of partial unconsciousness or constant drowsiness, with sometimes fits of restlessness, from which perhaps he may be temporarily aroused to make short replies to simple questions, but into which he immediately relapses when left to himself. Then, as consciousness is gradually restored, the mind remains in a dull and lethargic state, interference of any kind is often resented and the temper is sometimes strangely altered for the worse. Usually headache more or less severe is complained of. But the bodily functions in general in this stage are performed fairly well and there is no fever or sign of serious disturbance in any other organ than the brain. In such cases many months often elapse before complete recovery is assured and during this period its progress is easily interrupted by any attempts to exert the mind. Patients in this state complain that they cannot attend to business, that they are incapable of sustained mental effort, that they have lost the power of self-control, that their senses of sight, hearing, and taste are strangely disordered and so on. Many such cases, in more recent times, have acquired interest of another kind from the fact that they have been the result of accidents on railways.

Now I am not asserting that such a state as this, even in its more severe forms, may not be the result of what I have called simple concussion, that if the brain could be dissected any abnormal condition would be always visible, but seeing how different the effect of injury and the progress of the case are from that of many cases of what may be called simple concussion even in its severe forms seeing this, and coupling it with the fact that bruises of the brain are not uncommonly seen when looked for after death from other causes, I think, to say the least, it is reasonable to assume that in such cases as I have alluded to we have to deal with the effects of contusion beyond those of concussion pure and simple. To be sure, the treatment of such cases does not turn upon the precise view which is taken of their nature, whether they are regarded, as perhaps they generally are, as cases of mere concussion with unusually slow and irregular recovery; or whether, as it seems to me, they should be regarded as cases of concussion complicated with contusion, from which the patient continues to suffer after the effects of concussion have subsided; on either view the management is practically the same. It is on either view the insistance upon absolute and prolonged rest with careful nursing—upon

absolute rest, not of the mind only, but of the senses of sight and hearing and prolonged not only during the whole period of cerebral disturbance or defect, but for at least some time after. The danger of further mischief in these cases is perhaps not so great in the earlier stages, when the necessity of abstinence from all mental effort is obvious enough, as in the later ones when the patient, feeling himself while quiet and at rest to be tolerably well, cannot be persuaded to abstain from such activity as may be productive of mischief. Over and over again one sees patients who in spite of all precaution attempt to enter into active life, break down and are compelled to desist by headache, loss of sleep and of appetite, disorder of the senses and strange and startling sensations in various parts of the body. It is well if such strong hints are taken in time, for even the loss of this is in the end made much greater by such premature attempts.

What has been said of bruises of the brain may be applied also in general terms to contusion of the spinal cord. In examinations after death similar appearances to those found in the brain are sometimes seen in the cord—blood-stained patches in the substance of which minute extravasations may be discerned. As with the brain, the effect of such injuries during life is for the most part included in the symptoms of concussions and little or nothing is said or thought about the bruises which the substance of the cord may have sustained. In modern times such cases are most commonly met with as the result of railway accidents, and have been no doubt described and discussed as cases of concussion. With reference to these important cases in their relation to similar injury of the brain there are two points especially which deserve attention. The symptoms of these injuries, at least the more immediate ones, are less marked in the cord than in the brain. At first there is certainly less pain and usually less local disturbance. There is sometimes tenderness over the particular region of the cord, but this is probably due to injury of the surrounding structures rather than to that of the cord itself, and there is nothing corresponding to the headache, which is often so severe in corresponding injury of the brain. As a consequence such injury is more likely to be overlooked or disregarded in the cord than in the brain, and the needful rest neglected with much greater risk of subsequent mischief. Again, even when the necessity of absolute rest after such an injury is insisted on, it cannot be carried out so fully and completely as in the corresponding cases of many portions of the brain. The functions of the cord cannot, from its nature and endowments, be placed in such complete abeyance as those of the greater portion of the brain. The activity of the vital functions is not so closely connected with what are called the highest nerve centres as they are with those beneath them. As Dr. Marshall Hall long ago put it, the true spinal system never sleeps; and sleep is never more emphatically "nature's sweet restorer" than in such cases as those now under consideration. So that while bruises of the cord are not perhaps, as a rule, more severe than bruises of the brain, there is from these two causes the impossibility of obtaining such complete rest for the cord as for much of the brain, and the neglect of enforcing in the first instance such rest as may be practicable—a far greater risk of more remote mischief of a serious kind after injury of the cord than of the brain. No doubt the wisest practice in all these cases of injury, either of the cord or brain, even when in its early effects it may appear to be trivial and the patient is disposed to disregard it altogether, is to insist on immediate and unconditional rest, and as time goes on to relax this only very gradually under careful watching when no symptoms of any further disturbance appear.

How is it that so little attention has been paid to bruises of the lung, or rather, how is it that they have been so commonly overlooked? That they not unfrequently occur is, I think, beyond dispute, and yet specimens of the injury are not shown in our museums, nor is it often recognised during life. The injury is caused, of course, by blows on the chest, and is usually associated with fracture of the ribs, especially when due to direct violence, but it may and does occur under certain conditions when the ribs are not fractured. Indeed, such injury may happen, and even laceration, without any visible injury of the chest wall, as, for instance, from the passage of a wheel over it. If at the time of the accident the glottis is closed, the lung is suddenly compressed by the external force against the retained air.

I believe the effects of contusion of the lung are usually confounded with pneumonia. In the severer cases some days after an injury to the chest wall the patient complains of more deep-seated distress; the respiration perhaps becomes quickened; there is hacking cough, and soon rust-coloured sputa are expectorated. Then there are dulness, crepitation and other signs of consolidated lung with fluid in the smaller tubes over a limited area. These symptoms are not, I think, usually associated with much dyspnœa or fever and other signs of constitutional disturbance of pneumonia, although I should not insist on this distinction as a marked one. What is more significant during the progress of the case is that the expectoration frequently contains little pellets, or even larger clots of dark blood, which have evidently formed in the smaller tubes as the result of the injury and in time become detached. After this repair and convalescence are usually rapid and uninterrupted. It is perhaps hardly needful to remark that bruising of the lung is not necessarily accompanied by emphysema or pneumothorax or even by hæmoptysis; but in some of these cases, as in those of wound or puncture of the lung from broken rib, there is, at the time of the accident, the expectoration of blood-stained frothy mucus; but this does not last, and some days usually elapse before further evidence of damaged lung is revealed. No doubt for the first day or so the signs of injury of the lung are masked by the more impressive effects of broken ribs and perhaps of injured pleura.

These cases for the most part do well, and in subjects otherwise healthy perhaps there is not much to apprehend. It is trite to say that they require care and should never be neglected; in some instances of unsound constitution or of damaged organs the patient is not altogether free from the risk of septic infection. The liver and kidneys are no doubt often bruised, and blood then readily escapes from the vessels of these vascular organs. Examination after death frequently reveals laceration of them, and specimens showing this form of injury may be seen in our museums. This of course almost invariably includes bruising; but cases of simple bruising without distinct laceration unquestionably occur. In the case of the liver during life the diagnosis can only be guessed at, and perhaps it is a wise precaution in doubtful cases to assume its existence. In the case of the kidney the pain is, I fancy, as a rule more distinct and obvious than in that of the liver, and here there is often in addition the significant symptom of blood in the urine. The spleen, too, sometimes suffers in this way, and even the pancreas. A remarkable instance of severe bruising of the pancreas I saw some years ago as the unfortunate result of compression of the abdominal aorta by a tourniquet for the cure of aneurysm of the vessel lower down. After death the large aneurysm was found almost completely filled with quite recent clot, and the pancreas, where it lay across the spine, was terribly bruised. It may be added that during the few hours that the patient survived the operation there were no particular symptoms that could be directly referred to the damaged pancreas.

Every surgeon is familiar with the difficulty of exact diagnosis in injuries of the abdomen. Severe blows in that region, or more frequently perhaps the passage of the wheel of some vehicle over it, produce profound shock. The patient remains for some time in a state of more or less intense collapse and the degree and duration of this state is an important element in the diagnosis of any local lesion. In some of these cases the subsequent rapid progress of the patient towards recovery indicates the absence of any considerable local lesion and then the immediate effect of marked depression on the receipt of the injury we attribute to shock. In other cases the condition of collapse continues and death rapidly supervenes. In these cases we expect to find some distinct lesion of some important viscus—rupture or complete division of the intestine, for example. Everyone knows that even complete division of the whole tube of intestine may be the result of the passage of a wheel across the abdominal wall without any wound or opening in it. There is a third class of cases of great interest and importance which terminate neither in death nor in rapid recovery. The state of collapse very gradually passes off, but the patient remains pale and depressed. The abdominal wall becomes rigid and remains so and there is considerable tenderness, either somewhat localised or more generally diffused. The patient lies quietly on his back with the knees raised, and the respiratory action of the diaphragm is limited. The urine is usually passed without any material difficulty, but the bowels do not act. For the rest, the tongue is perhaps rather coated, but the temperature is not much raised, if raised at all, and the pulse is not quickened. This state will last for several days, or even for a week or two, and end in recovery. Now in these cases there has probably been bruising of important

structures. In some of them, perhaps, such mischief may be limited to the abdominal wall, and no doubt in many instances the symptoms and effects may be explained by such injury of the abdominal muscles. In other cases I think we must believe that some portion of the intestinal canal or other structure has been contused and is suffering from the effect. As a matter of fact, we sometimes see this condition when death is caused by other graver injury associated with it and the occasional supervention of peritonitis confirms this view. The strongest evidence in its favour is furnished by the untoward result of mismanagement. If the patient be not kept at absolute rest for some considerable time, but is allowed to move too soon or too freely; still more, if he be not fed with the greatest care, to the rigid exclusion of all food likely to encourage or compel peristaltic action; and worst of all, perhaps, if the routine purge "to clear out the bowels" be administered, the supervention of inflammation in the disastrous form of peritonitis tells its own tale. Hence the importance in these cases of the most careful nursing and management. In none is there greater need for the observance of unqualified rest, of "rest in its physiological sense," as Hilton put it. And it is hardly necessary to add that the drug of chief value in these cases is opium; not merely, if need be, to relieve pain and procure sleep, but to reduce as far as practicable the natural action of the intestinal canal. In such cases, for some days at least after the injury—as for some days after an operation for strangulated hernia—we should look upon an action of the bowels as a misfortune, and when at length it may seem prudent to permit it it should be gently solicited by the use of some very simple enema, as for instance, by the injection of a few ounces of warm olive oil. Again, it must be obvious that in all cases in which the extent of injury is at all doubtful, it is wisest to keep on the safe side and to adhere to the line of treatment dictated from the graver point of view.

A word further. It is important to remember that the liability to become bruised from the same degree of injury varies very widely in different persons. While the vessels of some will resist considerable violence, those of others give way under a slight touch and soon show the discolouration of a bruise; and this, of course, is significant of the state of the structures generally. When the vessels of superficial parts are thus very easily ruptured it indicates a fragility or an unsoundness which in other regions may lead to disastrous consequences. In such cases there are usually other signs of undue degeneration. Persons advanced in life, perwhere perhaps women more frequently than men and above all those with a preponderance of fat are usually the subjects of this condition. Bruising in these instances has the same significance, and for a similar reason, as epistaxis. When due to an adequate cause, or even to a strictly local condition, it has no grave import; but the case is very different when in advanced life it is provoked by trivial disturbance. Here is a striking case in point. A fat elderly woman was brought to the hospital on account of some, not severe, accident to one of her legs. I saw her in the admission room and there was no bruise or any sign of injury on her face. She was carried into one of the wards and when in half an hour I saw her there I found her with two very bad "black eyes." Upon seeking an explanation of this I learnt that her face had not been struck in any way, but that while being carried up a step or two into the ward she had received a sudden jerk and this was the only cause to which the ecchymosis could be assigned. This led of course to a further careful examination of her state and signs of a fatty heart and other symptoms of degeneration were soon revealed. In the course of two or three days she suddenly died. It is familiar knowledge to those who "train" and to many others that as the man gets into "condition" the flesh becomes firmer and with this the liability to become bruised is very materially diminished. The importance of bearing this state of the tissues in mind in diagnosis and prognosis is obvious enough.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—The next examination in England for the certificate in Psychological Medicine will be held at Bethlem Hospital, London, on July 7th, at eleven o'clock in the morning. The examination for the Gaskell Prize will take place on the following day at the same hour and place. Candidates are requested to give notice at once to the honorary general secretary, Dr. Fletcher Beach, Darenth Asylum, Dartford.

An Address
ON
TOOTH CULTURE.

Delivered at the Annual Meeting of the Eastern Counties Branch of the British Dental Association at Cambridge on June 22nd, 1892,

BY SIR JAMES CRICHTON-BROWNE, M.D. &c.,
LORD CHANCELLOR'S VISITOR.

GENTLEMEN,—It is with unaffected diffidence and in compliance with the pressing solicitations of a valued if somewhat exacting friend that I occupy the chair this afternoon and presume to preside over a meeting of a body of men at whose feet I should sit for edification in the subjects that are to be considered here. But whatever I may lack in knowledge of the topics which are to engage your attention, I am not behind you in lively interest in them, for since I read the paper of Mr. J. Smith Turner on the Condition of the Teeth of School Children, communicated to the Hygienic Congress in London, I have realised the importance of the inquiry which he described and have sought further information bearing on it. Some special investigations which I have myself undertaken from time to time into our present educational systems in their physiological aspects have prepared me for the disclosures which you are making and I needly scarcely say that I fully accept the conclusions arrived at in your first collective report and am in complete sympathy with you in the recommendations offered in that report and during the discussions of your Association which have taken place upon it. That report is, it seems to me, a very grave and significant document, revealing a state of matters for which even those most familiar with dental defects were scarcely prepared, for it is surely startling to find that amongst 5249 children under twelve years of age, there were only 485 with normal or perfect dentures—that is to say, made up of sound teeth requiring neither filling nor extraction, that only 26 per cent. of infants at five years of age have teeth free from caries and that every 1000 children at twelve years of age have amongst them 2543 teeth affected by caries. Almost as startling as the report itself are some of the statements of independent observers by which it is supported, such as that of Dr. John Livey, who, after examining the teeth of 4000 children attending schools in Bolton, said that during the course of this inquiry he could not help observing that caries is extremely common and that indeed it is quite the exception to find a perfect set of teeth, more especially in children over ten years of age; such as that of the dental officer to the Police Orphanage at Twickenham, who said that not more than one child in three enters the Orphanage with sound teeth; such as that of Mr. Fisher of Dundee, who said that amongst 400 boys on the training ship *Mars* in the Firth of Tay, drawn from a part of the country where bone and muscle are of the best description, boys who are kept clean, well housed, clothed and dieted, he found only 80 sound sets of teeth; or such as that of Dr. Cunningham, that in a school at Hull there were 595 defective teeth for each 100 children. The fact that 10,000,000 of artificial teeth are used in this country annually, although, of course, only a small proportion of the population can procure these articles of luxury, brings home to us the truth that dental mortality is heavy in these days and that the gaps in dental circles that require filling must be big and numerous.

Putting aside for the present the important information you have supplied regarding other dental abnormalities and diseases found in school children, supernumerary teeth, honeycombed teeth, syphilitic teeth, fractured teeth, enamel defects and fistulæ, I wish to confine what I have to say this afternoon to caries, the most ruinous of dental maladies, not only in childhood, but at every epoch of life; and if in speaking of it I should utter what are to you truisms or travel over ground with which you have long been familiar, I must crave your kind indulgence, which I am sure you will extend to me when you remember that my acquaintance with the literature of your specialty is necessarily limited. Even the crudities and impertinencies of an outsider, however are not without instruction to the expert and from

my stumbling steps you may perchance gather some hints to expedite your own advance.

Now, as regards dental caries, it can be scarcely necessary that I should rehearse to you the evidence that has been adduced to prove that it is now far more prevalent in this country than it has ever hitherto been and that its ravages are more widespread and serious, in the present than in any former generation, about the dental history of which we have records. You will probably agree with me that that evidence is conclusive and, indeed, I take it that your own observations on the condition of the teeth of school children make it certain that dental degeneration has now attained an ascendency that it did not in former times possess. It is impossible to believe that the British Empire would have become what it is to-day if amongst those hardy Norsemen who pushed up their keels upon the shore at Ebbsfleet and entered upon the making of England there had been only one sound set of teeth in every ten, or if amongst our ancestors, who have extended our dominions by land and sea and won for us our civil and religious liberties by struggles in which personal vigour and endurance counted for more than they do in the highly scientific and explosive warfare of modern times, there had been all but universal rottenness of the teeth before adolescence. Depend upon it that in the England of the past the teeth were not as frail or troublesome as they are to-day. The skulls dug up on the battle-fields of England grimly and silently attest the fact and the very existence of your profession in its present magnitude in the country bears witness to it. I am not going to argue that sound teeth are the passports to power, or that biting and grinding capacity have determined the course of history, but this I will maintain, that no nation has ever climbed to pre-eminence on carious teeth, or can retain pre-eminence when its teeth are no more and that it behoves a conquering people jealously to look to its teeth and to keep them, not less than its weapons, bright and sharp. If I might alter Goldsmith slightly I would declare

> "Ill fares the land, to hastening ills a prey,
> Where gums accumulate and teeth decay."

It is not an edentulous race that will finally possess the world.

When we inquire into the cause of the greatly increased prevalence of dental caries in modern times we at once perceive that it is an instance of these imperfect adjustments which we often see in living beings in their passage from a natural to an artificial and from an artificial to a more artificial condition of existence. All advance in organic evolution involves danger and sacrifice and in highly complicated organisms an advance in one direction often means retrogression in another, in which the power of adaptation is tardy or where compensatory measures have not been adopted. The resources of civilisation are more ample, nimble, and varied than those of dentition and so it has come about that the teeth have not been modified in accordance with the altered habits of life of modern times, and especially of the nineteenth century, and have not yet been adequately protected by specially devised safeguards. But in examining into the causes of the increase of dental decay which we see around us, we can go beyond a mere general statement of this kind and indicate, I believe, some of the specific conditions of modern life which are mainly responsible for it; and some of these specific conditions, as they present themselves to my mind, I venture, with great deference, to submit to your consideration.

In the first place, then, it seems to me that the greater prevalence of dental caries in these days is probably in some measure dependent on the softness and pulpiness of the food on which we for the most part feed. Hardness and toughness of food—and the food of savage and semi-civilised races is generally hard and tough—involve vigorous mastication and vigorous mastication involves a vigorous use of the teeth in their proper function and a copious flow of saliva and a copious flow of saliva involves cleansing of the teeth and gums, to which the active movements of the lips, tongue, and cheeks during mastication largely contribute. But softness and pulpiness of food—and the food of all civilised races tends to become more and more soft and pulpy—means comparatively little mastication and use of the teeth and little mastication means a diminished flow of saliva, for the far-fetched condiments of refined cookery do not stimulate the salivary glands to anything like the same extent that ordinary sapid substances with energetic masticatory movements do, and a diminished flow of saliva means diminished cleansing of the teeth, which are at the same time imperfectly scrubbed by the feeble movement of the parts engaged in mastication, and so it comes about that when the food is soft and pulpy particles of it lodge in and about the teeth and gums, to an extent that is impossible where it is hard and tough and afford a nidus for those bacterial growths which alike by the decomposition they set up and their direct attacks are so inimical to the integrity of the teeth. It has been shown that the jaws and the muscles of mastication are larger in savage than in civilised races. I have little doubt it will be found that there is some atrophy of the parotid, submaxillary and sublingual glands in the latter as compared with the former and then it will appear that tooth-brush and dentifrice are merely auxiliaries to a natural apparatus which has to some extent dwindled by disuse.

In the second place, I would suggest to you as a specific cause of the increase of dental caries a change that has taken place in a food stuff of a particular kind and of primary importance—I mean bread, the staff of life,—from which in the progress of civilisation the coarse elements—and the coarse elements consist of the outer husks of the grains of which it is composed—have been eliminated. In as far as our own country at any rate is concerned, this is essentially an age of white bread and fine flour and it is an age therefore in which we are no longer partaking to anything like the same amount that our ancestors did of the bran or husky parts of wheat and so are deprived to a large degree of a chemical element which they contain — namely, fluorine. The late Dr. George Wilson showed that fluorine is more widely distributed in nature than was before his time supposed, but still, as he pointed out, it is but sparingly present where it does occur and the only channels by which it can apparently find its way into the animal economy are through the siliceous stems of grasses and the outer husks of grain, in which it exists in comparative abundance. Analysis has proved that the enamel of the teeth contains more fluorine, in the form of fluoride of calcium, than any other part of the body and fluorine might, indeed, be regarded as the characteristic chemical constituent of this structure, the hardest of all animal tissue and containing 95·5 per cent. of salts, against 72 per cent. in the dentine. As this is so it is clear that a supply of fluorine, while the development of the teeth is proceeding, is essential to the proper formation of the enamel and that any deficiency in this respect must result in thin and inferior enamel. If, in our dislike to grittiness, which has run parallel to our addiction to soft and succulent food and in our preference for white and fine flour, we have cut off the main source of supply of fluorine to our systems, it is not difficult to understand how we may have thereby incurred comparatively feeble and unprotected teeth, with a diminished power of resistance to adverse influences and peculiarly liable to decay. For the dense close-fitting prisms of the enamel are to the tooth what its armour-plates are to a modern ship of war; and if they are easily penetrated, corroded, or worn away, then the fate of the dentine within is sealed. I think it well worthy of consideration whether the reintroduction into our diet, and especially into the diet of childbearing women and of children, of a supply of fluorine in some suitable natural form—and what form can be more suitable than that in which it exists in the pellicles of our grain stuffs?—might not do something to fortify the teeth of the next generation.

In the third place, I would name to you, as a cause of increased dental decay in our population, the high nervous tension of our times and the impaired nutrition which that high tension frequently entails, either hereditarily or by its operation on the individual life. It is everlastingly true that when the parents have eaten sour grapes the children's teeth are set on edge, that when the parents have been prodigal of their strength the children are impoverished in constitution. Intense vitality of the conjugating spermatozoon and ovum is necessary to give the new being a fair start on its career and to impart to it an impulse which will carry it and all its tissues steadily through the perils and vicissitudes of development and maturity to the gentle declivity of kindly old age. Such intense vitality of the spermatozoon and ovum is not to be expected when the parents who produce them are labouring under nervous exhaustion; so there are now vast numbers of human beings, the offspring of neurotic or neurasthenic parents, sent "into this breathing world," "deformed, unfinished," and "scarce half made up," whose teeth are delicate and destined to premature decay. The gastro-intestinal mucous membrane of the embryo from which the pulps and sacs of the teeth

originate may in such cases be supposed to have been wanting in formative energy, or the trophic influence from nerve centres which is exerted, if not during the papillary and follicular, certainly throughout the saccular and eruptive stages of dentition, may be presumed to have been defective. It is to be remembered that as early as the fourteenth week of embryonic life, when the membrane of the dental groove with its adherent follicles and their pulps are stripped off, there may be seen dental nerves running along under the follicles and distributing twigs to each of them; it is certain that from this time till the completion of dentition at the twentieth year the development of the teeth is more or less under nervous control. It is not to be expected, I think, that robust teeth will grow and come forth in due order in children who are kept in a state of nervous excitement or overstrain. While I am quite satisfied that inherited tendencies are more potent than personal experiences in inducing the dental debility which we encounter in nervous children, I still cannot acquit our modern system of education, with the over-pressure into which it so often runs, of some share in its causation, directly through interference with the growth and eruption of the teeth, as well as indirectly through interference with digestion and secretion and the consequent establishment in the mouth of conditions favourable to dental caries. It is, I think, corroborative of the view that nervous tension contributes to dental caries that your statistics show that as regards caries better class schools are in a worse condition than those in which lower class children are educated. Better class children have of course more care bestowed on their teeth than those of a lower class, but they are at the same time of more nervous temperament and are more subject to nervous strain. With the view of ascertaining how far dental defects and decay are associated with arrested development of the nervous system, I carefully examined, by the permission of Dr. Shuttleworth and with his kind assistance and that of Dr. Telford Smith, the teeth of 113 idiots and imbeciles in the Royal Albert Asylum at Lancaster about a fortnight ago. I cannot here of course enter upon any details or give even a general summary of the observations made, but I may tell you that there was not amongst these 113 idiots and imbeciles of an average age of seventeen years one denture perfect or approaching perfection. Dental caries was present in every case save three, and in one of these three cases six teeth had been removed and in another two, so that there was only one boy out of 113 idiots and imbeciles who did not present evidence of past or present dental caries, and in him the teeth were crowded, displaced, and pitted. In a vast majority of cases the caries might be described as galloping and had been widely and deeply destructive, so that the mouths of these blighted creatures presented a lamentable spectacle and might, without hyperbole, be addressed by the dentist called in to examine them in the language used by Romeo when breaking into the vault of the Capulets:

> "Thou detestable maw, thou womb of death,
> Thus I enforce thy rotten jaws to open."

Besides caries there were many other dental defects noted in the weak-minded inmates of the Royal Albert Asylum. There were overcrowding and displacement of teeth in seventy-five cases, sometimes to such an extreme degree as to produce two distinct rows of incisors in the upper jaw, the central incisors in front and the lateral incisors behind and this overcrowding depending upon contraction of the jaws, the upper jaw being V-shaped, semi V-shaped, or saddle-shaped, and invariably associated with narrowness and arching of the palate, was three times as frequent in girls as in boys. There were notching, pitting, and honeycombing of the teeth in eighteen cases and these conditions were five times more frequent in boys than in girls, while in almost every case there was observed either natural absence of a tooth or teeth, delayed eruption of a tooth or teeth, dwarfing of teeth, or malformation of one or more teeth, while in a considerable number of cases there were hypertrophy, hyperplasia or distortion of the alveolar processes and gums. Without entering on further particulars I would say that my limited survey of the teeth of idiots and imbeciles has convinced me that much valuable information will be derived from a systematic study of the developmental irregularities of the teeth and jaws which abound amongst them—a study which has been touched on by Cartwright, Ballard, Ireland, Langdon Down and Oakley Coles, which was seriously undertaken some years ago by your colleague, Dr. Talbot of Chicago, who did not, however, push his inquiries very far, but limited them to maxillary modifications. It is obvious, I think, that the condition of the several teeth in the weak-minded will sometimes guide to the particular point in the evolution of the nerve centres when arrest in development took place, while the distribution of caries amongst their teeth will throw light on some obscure questions in dental pathology. It is obvious that certain types of teeth are characteristic of certain varieties of mental defect and it is possible therefore that certain less marked but still perhaps distinctive dental characters are associated with certain mental qualities in those who are not weak-minded and that dentistry might afford glimpses of insight and prescience to which palmistry has only pretended to attain. It is obvious above all that cerebral abnormalities, congenital and developmental, have associated with them dental malformations and degenerations of an exceedingly marked kind and it is probable therefore that cerebral disorders in the young when dentition is still incomplete may impair the soundness of the teeth and so as I have said the nervous high tension of the age, which is so apt to induce cerebral disorder, may be a contributory cause of the increase of dental caries in these days.

In the fourth place, I would mention as a possible cause of the increased prevalence of dental caries amongst us the growing aggregation of our population in large towns, for this aggregation entails for old and young higher nervous tension than country life, a greater liability to anæmia and a low standard of health, and also to several zymotic and constitutional diseases, which not less than general reduction of health and nervous exhaustion leave their stamp on the teeth in impaired nutrition. But more than this, the conditions of town life conduce especially to those forms of dental failure which depend on bacterial onslaughts. Wherever human population is thick on the ground, bacterial population is thick in the air, and in our crowded cities we have a crowded atmosphere contrasting unfavourably with the pure air of the country and conveying constantly into the mouths of men, women, and children volumes of parasites pathogenetic and non-pathogenetic. The mouth is indeed veritably a menagerie of tame and wild bacteria. Miller found twenty-two kinds of bacteria in the mouth, of which sixteen brought about an acid reaction when cultivated in beef extract peptone, while four produced an alkaline solution and only two a neutral one. Six organisms are invariably found in the human mouth, almost invariably another three or four, and during epidemics or when there has been contact with persons suffering from various diseases the organisms associated with these diseases and epidemics are frequently detected in the mouth mingling with its habitual inhabitants, a fact which reminds me of the curious way in which home lore sometimes anticipates scientific discovery; for as a boy I was instructed, and I daresay many of you were so also, always to spit vigorously for some time after passing a person supposed to be afflicted by any infectious disease or any house where it was known to exist. The frequent presence of such organisms in the mouth as well as of others of a still more virulent type, such as that of sputum septicæmia, which is harmless until there is, from some cause set up, congestion or œdema of the lung, when it immediately induces croupous pneumonia or gangrene, or that of acute septicæmia, or such as the streptococcus aureus and albus, seems to make it incumbent on the dentist to practise thorough antiseptic cleansing of the mouth before even trifling operations are undertaken in town at any rate, for suppuration and symptoms of chronic poisoning and of pyæmia have followed even the extraction of a tooth or lancing of the gums.

Whether indigenous or of occasional and foreign intrusion, the bacteria which haunt the mouth find there conditions eminently suitable to their rapid multiplication. The mouth is indeed an incubating chamber specially prepared for bacterial cultivation. In it the proper temperature is steadily kept up and the proper degree of moisture and aeration is maintained, while proper nutriment is liberally supplied in particles of food which adhere to the teeth and gums, in the desquamating epithelium, in the sugar resulting from the transformation of starch by the action of ptyalin, and in the substance of the teeth themselves. In sections of decalcified teeth stained with fuchsin and vesuvin bacteria are often seen scattered irregularly through the dentine when it is undergoing decay or softening; and although these bacteria may be only playing a secondary part, it is to be borne in mind that it is an important part and that it has only become possible because other bacteria have taken the initiative. It is when the enamel is removed that bacterial

inroads in the dentine become practicable and the removal of the enamel is effected by lactic acid and the peptonising enzyme which other bacilli produce. Miller found in his experiments on artificial decay that as long as the enamel was entire acids had no power to injure the dentine beneath, but wherever the enamel was thin or imperfectly developed the dentine was soon softened by any acid that was present and the canaliculi were then speedily filled with bacteria, which gave rise to irregular corrosion. As a large majority of the bacteria which find their way into the mouth do produce acids, it is evident that conditions that increase the bacterial supply to the mouth must promote the destruction of enamel and the invasion of the dental tubules, so that the aggregation of our people in towns must tend to the diffusion of dental caries.

There are other conditions of modern life, such as the catholic habit of smoking tobacco and the frequent administration in the treatment of debility of drugs, like the perchloride of iron and hydrochloric acid, that are rapidly destructive of enamel, which have perhaps contributed to the reign of caries that we deplore—a reign that still extends, notwithstanding an enhanced degree of attention bestowed upon the care of the teeth, as indicated by the huge increase in the manufacture and sale of toothbrushes and tooth-pastes and powders during the last twenty years. But the principal causes of the increase of dental caries have, I believe, been summed up in what I have said to you this afternoon, and the practical question that now arises is what can be done to remove these causes or to counteract their effects, to banish from our country a blight that has invaded every household and to secure to our people the boon of sound and serviceable teeth.

I have said that the present state of matters is deplorable. I am sure you will agree with me that it is harrowing to reflect on the pain and sleeplessness and distress that are daily due to dental caries in this country. Beyond these immediate evils accruing from it there are remote consequences which are even more grievous. Decay of the teeth implies imperfect mastication, delayed digestion, impaired assimilation, and a whole train of derangements which embitter and sometimes shorten life. It implies also imperfect articulation and therefore some social disability; and further than this, I would affirm that it implies sometimes danger to mental health, for in a sensitive woman, especially if she is otherwise pretty, the knowledge that she has unsightly teeth, or an obviously artificial set, is just one of those minor but constantly recurring worries and chagrins that tend to upset the equilibrium of the nervous system. The prevention of dental decay, then, and the preservation of sound teeth, become hygienic and prophylactic measures of the first moment. The boy who can masticate has a much better prospect of success and happiness in life than he who can merely munch, and the girl who dares to show her teeth will have more joy in her womanhood than she who has to veil them behind an imperturbable upper lip.

What, then, are the hygienic and prophylactic measures which should be resorted to for the prevention of dental caries and the preservation of sound teeth? The most important, the most hopeful of all of them, are those which you are met to discuss this afternoon, and which have reference to the care of the teeth of children during the period of schooling. We cannot roll back the tide of evolutionary change, abolish the potato and other pulpy foods, cool down the fever of competition, or reverse the centripetal force that is drawing our labouring classes into towns; but we can do much, very much, to avert and counteract the injurious effects upon the teeth which are exerted by such movements towards more artificial modes of life; and, best of all, we can do this in early life. The reformation of the vicious and criminal classes can only be successfully carried out amongst the young; and dental delinquency is only to be efficiently dealt with—on the large scale, at any rate—amongst those of tender years. I would, perhaps, not be going too far in alleging that if universal, continuous, and skilful supervision and management of the teeth during their development and eruption—that is, up till twenty years of age—could be secured, there would be practically nothing to do to the teeth afterwards. Once safely brought through the perils of youth they might, in a vast majority of instances, be left to themselves afterwards without any fear of their degenerating, even under circumstances of trial and neglect.

It is during childhood that tooth troubles originate and it seems to me that you are performing a great public duty, in a manner worthy of an unselfish profession, in calling attention to the alarming prevalence of dental caries amongst school children and in asking that steps be taken to arrest its progress and prevent its spread. It seems to me that you have already made out an unanswerable case in favour of interference and I cannot doubt that you will soon be successful in securing it. You have shown the reality and the magnitude of the evil as it exists; you have shown the practicability of dealing with it remedially, and you are entitled to insist that easily attainable protection shall be given against an evil, distressing in itself and pernicious and far-reaching in its consequences.

In the first place, I would say it is the clear and pressing duty of Government or Parliament to provide that in all public institutions for the maintenance or education of the young, whether under public control, as in the case of training ships, reformatories, industrial and workhouse schools, or under the management of committees of subscribers, as in the case of orphanages, hospitals and homes the teeth of the children shall be periodically examined by a qualified dentist and everything that is needful done for their preservation. The governing bodies of such institutions stand *in loco parentis* and are bound to do everything that a good and prudent parent would do to guard the children under their charge against suffering and illness and to equip them thoroughly to earn their living. Of the children in such schools a large number ought to look forward to joining the public services and in order that they may do that it is essential that they should have sound teeth, for, as we know, a considerable percentage of young men desiring to enter the army and navy are rejected annually solely on account of dental disease.

As regards Board Schools, there would certainly be greater difficulty in introducing compulsory dentistry. There would, no doubt, be resistance by ignorant and stupid parents, and perhaps by a pig-headed society, to any operative procedure enforced to ensure to children the inestimable blessing of sound teeth, just as there is opposition to compulsory vaccination and other beneficent measures of a like kind; but, as far as I can see, there could be no objection to compulsory inspection of teeth and it is this, I respectfully submit to you that you ought to aim at and that, were it once fully introduced, would ultimately secure for us nearly all we want. Were statutory powers obtained, making it obligatory upon all School Boards and committees of schools receiving grants, to have the teeth of every child attending these schools examined by a qualified dentist twice a year; to forward to the parent or guardian of every child a copy of the dentist's report, indicating, wherever interference is necessary, what measures are required for the preservation of the child's teeth; and to provide at a cheap rate to parents and guardians disposed to avail themselves of it the assistance necessary to carry out these measures, then I feel satisfied that dental caries would be immediately circumscribed in its ravages and in a few generations become comparatively rare. The very existence of such a system would create a public opinion in favour of sound teeth, it would bring home to the people a sense of the value of tooth culture and lead to the widespread adoption of domestic precautions against dental caries, now too much neglected. In so doing it would have advantages beyond those merely relating to the teeth, for you may depend upon it, that the simple ceremonial observance of the morning and evening toothbrush, regularly performed, exalts self-respect and so has a wholesome effect upon moral character.

A system of compulsory inspection of the teeth of school children and State-aided rectification of defects in them, such as I have alluded to, would of course entail a large outlay of money, for I contemplate that the dentists employed in this public service would be adequately remunerated for their labours; but the money would be well spent and would yield a splendid return in the increased comfort, contentment, health and vigour of our people. Rather than it should not be spent on so laudable and desirable an undertaking—and truly our school rates are already high—I would willingly see some curtailment of the curriculum which our Board Schools now offer. Nutrition, I have often said, comes before education. It is wasteful and even cruel to force education on half-starved children, and teeth, I would now assert, come before talents. It is preposterous to confer shreds of showy accomplishments on children who cannot chew their food; and sure I am that it would be for the ultimate welfare of the country (if so be that adequate tooth culture cannot be otherwise secured) even that the grand piano in some of our London Board Schools should give

place for a time to the dentist's chair. Admirable is the grand piano in its way; it is the high altar of popular æsthetics, but Chopin and Wagner ill accord with the groans of toothache. Horrible, no doubt, in its way is the dentist's chair, excruciating are the associations that cluster round it, but a timely resort to it robs it of its terrors and converts it into a benefactor that lifts us from purgatorial pains into paradisaical tranquillity and ease. The union of teeth is a far more momentous matter than that union of hearts of which we have heard so much lately.

Taken in its incipient stage caries is readily extirpated and stayed, and one of the most pleasing features in your profession at the present day, if I may say so, is the anxiety you manifest to save teeth in which it has already made serious inroads and to sacrifice as little as possible of natural dental structure. Marvellous is your skill, but you cannot yet supply artificial teeth with the true vital polish, and firm, nice and sentient in grip like the natural organ planted in its living alveolus, and your efforts are therefore directed to preserving that natural organ, even when badly damaged, whenever it is practicable to do so. Extraction which was at one time the opprobrium of your art, just as amputation was of surgery, is now comparatively rarely practised, except by old-fashioned or questionable practitioners—although it is still, I fear, too frequently resorted to by members of my profession when trespassing, as they are often obliged to do, on your domains. Blake, the artist, left us a grotesque and curious portrait of the ghost of a flea—a hideous figure covered with scaly skin of black and gold, with a murderer's countenance and eager tongue whisking out of its mouth and a cup in its clawed hands to hold the blood. I much wish he had bequeathed to us his conception of the ghost of a lost tooth, a spectre of ivory pallor and hollow visage, with quivering fangs for limbs, wormeaten, writhing in agony and waving aloft forceps and key; and even more do I wish that such a spectre could be set to plague every dentist or doctor who has been guilty of denticide or the unnecessary extraction of a saveable tooth. But no such ill-visions, gentlemen, will affright you, for I know how scrupulously conservative you are, how loth even to confer euthanasia on a perishing stump. In conclusion, I would beg very cordially to wish you success in your efforts to secure the protection of the teeth of the young and I would exhort you to steady perseverance in these efforts, undaunted by opposition, unruffled by ridicule and undiscouraged by failure, for your cause is a good and reasonable one and it must prevail. You are a wing, an useful and honoured wing, of the great army that is giving unceasing battle to the powers of darkness, disease and death.

A Clinical Lecture

ON THE

TREATMENT OF FRACTURE OF THE PATELLA,

WITH AN ACCOUNT OF A NEW METHOD.

BY WILLIAM ANDERSON, F.R.C.S. ENG.,

SURGEON TO ST. THOMAS'S HOSPITAL, PROFESSOR OF ANATOMY IN THE ROYAL ACADEMY OF ARTS.

GENTLEMEN,—There are few fractures that give more trouble both to the patient and to the surgeon than those of the patella and the reasons for this are now well understood. The natural tendency to separation of the fragments by the "tonic" contraction of the quadriceps extensor, the effusion of blood into the joint cavity, the traumatic synovitis set up by the injury, and the intrusion of the torn prepatellar aponeuroses between the two fragments are so many natural obstacles to a favourable union, and they may be aided, perhaps in a material degree, by plans of treatment which intercept the blood-supply to the injured part and so tilt the fragments that a strong bond of union becomes a physical impossibility. Then, union of a more or less satisfactory kind having taken place, the prolonged immobilisation by which it has been secured is apt to leave stiffness of the joint, often for a long time after the patient is allowed to use the member; and ultimate freedom of motion is only obtained by painful and frequent manipulations. It is probable, moreover, that a detrimental element of a different kind comes into play in a large proportion of the cases. There is reason to believe that fracture of the patella, when compared with fractures of the long bones, is relatively infrequent in young and vigorous persons, but is more prone to occur in subjects of a less favourable type; women and men over middle age or of feebler habit of body; and perhaps the lower tissue resistance in such cases is a predisposing cause of the lesion and of the imperfection of the reparative process. In the last four months there have been admitted into my wards seven persons with this injury. Of these, five were women, and not at all of a robust type, and two were elderly men who died within a few days of admission from ailments of a medical nature. This is of course an exceptionally bad list, but my impression of the cases that have been under my care during the last ten years is that the subjects were with few exceptions decidedly below the average in reparative power. To put this in some measure to the test I have, with the aid of my house surgeon, Mr. W. F. E. Milton, analysed the records of 274 cases treated since the beginning of 1880 at St. Thomas's Hospital and have taken for comparison the much larger number of fractures of the leg within the same period. From this it appears that the former accident is relatively much more frequent in women than the latter. Thus of the patellar fractures 35·5 per cent. were in women; of the leg fractures only 20·7 per cent. Again, the average age in patellar fracture is very high (39·7) and no less than 49 per cent. of the patients had passed their fortieth year, against 30 per cent. in fractures of the leg. Now it might be supposed that transverse fracture of the patella is especially favoured by a powerful development of the quadriceps extensor, since there can be little doubt that it is the violent contraction of this muscle that determines the breach of continuity in the vast majority of the cases; but the large proportion of women and of elderly men who are subject to the accident points rather to the predominant influence of a second factor, a diminished textural resistance in the bone, and such diminished resistance is likely to be associated with impaired reparative power.

The remedial measures, apart from the familiar elements of rest and position and local antiphlogistics, may be divided into operative and non-operative. The *non-operative* treatment was until a few years ago almost the only resource which the surgeon regarded as justifiable and consisted of a variety of bandages and appliances designed to draw the fragments together. I do not propose to speak of these in detail, but merely to point out that most of them were positively injurious, because they tended both to impede the circulation in the patellar vessels and to tilt the broken edges of the fragment forwards, and many if not all of the warning specimens in our museums were perhaps rather the products of misdirected surgical zeal than of nature's inability to do the work of repair. There is, indeed, little doubt that in cases not treated by operation, simple rest and extension of the limb, without any attempt to coerce the fragments of the broken bone into position, afford the best prospect of a sound union, and it is perhaps the exclusion of harmful interference that explains the success claimed in recent years for the innocent expedient of massage of the extensors. If, however, we take the results of all cases treated by non-operative measures—good, bad and indifferent—there is little serious reason for dissatisfaction. It is true that the patients were crippled for a much longer time than in most other fractures of the lower extremity, but very few of them had any further cause for complaint and the mortality was *nil*. Only two cases since 1880 were admitted into the hospital for the treatment of badly united bones; and it must of course be recollected that it is not in the patella alone that imperfect union occurs. These facts must be borne in mind in estimating the desirability of certain forms of operation. In *operative* treatment we have now a considerable variety of resources, all aiming to secure a close mechanical apposition of the fragments, either by immediate suture or by forces less directly applied. The suturing operations are of several kinds. The fragments may be exposed and wired after the manner of Lister; the bone may be drilled and sutured subcutaneously, after the method of Ceci; the suture may be passed through the ligamentum patellæ and quadriceps tendon and around the bone longitudinally, the uniting material being knotted externally, after the method of Kocher, or carried beneath the skin over the patella as recommended by Barker. The details of the different operations have been graphically described in a recent article by Mr. Barker and need not be repeated.

Amongst all these plans, that of Lister stands first in its

results. The effused blood is removed from the joint, the torn prepatellar aponeurosis is cut away and the two broken surfaces are accurately adapted. This is ideal surgery and the reward is all that would be expected—speedy union and early and complete restoration of the functional utility of the joint. In the series of cases quoted admirable results have been secured by my colleagues, Mr. Croft and Sir William MacCormac, from this measure. The methods of Kocher and Barker too have been very successful, although they have not the advantages of Lister's operation; but in all these the cavity of the joint is interfered with. Now antisepsis includes too many factors and directly or indirectly the coöperation of too many persons to render possible an absolute certainty of success; and so grave are the consequences of suppuration of the joint that were it to happen in only one out of fifty cases it is very doubtful whether all the benefits gained for the other forty-nine would compensate for it. The results of the ordinary treatment, however, are not good enough to permit us to rest content without seeking to improve upon them if we can do so without sacrifice of safety, and if an operation can be devised that will secure approximation of the fragments without implicating the articular cavity it should receive a fair consideration. Amongst the methods aiming at this result are Treves' adaptation of Malgaigne's hooks to grasp the patella itself instead of the quadriceps tendon and ligamentum patellæ; Marshall's plan of piercing the bone transversely above and below the fracture by pins which are drawn together by means of wire outside the joint; and Mr. Mayo Robson's operation, in which the pins are passed through the tendon of the rectus and ligamentum patellæ instead of through the bone. We have not at present a large experience of either of these three methods. The first certainly removes the danger attached to the original application of the hooks—that of penetrating the joint—and appears worthy of a more extended trial; the second must be somewhat difficult of safe performance when the lower fragment is small; and the third would appear to require some care to avoid the implication of the supra-patellar synovial pouch and to ensure that the fragments, the lower one particularly, shall not be tilted. Of course, none of these "subcutaneous" measures remove the obstacle to ideal union offered by the torn ends of the prepatellar aponeurosis; but there is no reason to believe that this tissue fills the interval between the fragments so completely as to intercept a satisfactory union if the apposition of the fragments be sufficiently close.

In the course of a dissection of the structures in front of the knee I was struck with the strength of the prepatellar fibres of the quadriceps and their strong fixation to the bone, and on passing a pin between the thin tendinous aponeurosis and the bone I found that a very considerable force of traction might be exerted without any yielding of the tissue—a force much greater than that required to ensure contact of the fragments in fracture. Acting upon this I took advantage of a series of five cases admitted into my wards to apply a new procedure. All the cases were kept for a week at perfect rest with the limb extended upon a back splint. The patient was then prepared for operation by a thorough cleansing of the skin over the front of the knee and the application for twelve hours of a moist perchloride of mercury pack. A strong steel pin, about four and a half inches long, with a lance-shaped extremity, was passed through the integuments down to the front of the upper fragment near its outer margin, about half an inch above the line of fracture, and was pressed onwards transversely nearly as far as the opposite border, the point being kept in contact with the bony surface till it was finally pushed through the skin. The lower fragment was similarly treated and it was found that approximation of the ends of the two needles at once obliterated the gap between the two portions of the broken bone. A cork was then fixed on the two needle points, and the heads on the opposite side of the joint were connected by means of a twisted silver wire. The whole joint was dusted with iodoform powder and covered with an antiseptic dressing and the limb was again placed upon the back splint. It was left untouched for a fortnight or three weeks, at the end of which time the dressings were removed and the pins withdrawn. I will not take up time by reading the reports of the individual cases, as it will be more easy and profitable to summarise the results. The patients were all women—one aged twenty-four, a fairly good subject; two aged thirty, of poor physique; one aged forty-five, an extremely stout woman; and one aged fifty-two, a person of very intemperate habits. In all the fracture was transverse and the accident was attributable to a spasmodic contraction of the extensors consequent upon a stumble. In four of the cases the course was aseptic and painless throughout and when the pins were withdrawn the union was found to be linear; in the fifth, that of the alcoholic patient, suppuration occurred along the track of the pins and it was necessary to withdraw them at the end of thirteen days; but there was little or no pain and a good fibrous union was secured with an interval of about a quarter of an inch. This person returned home at her own request at the end of five weeks and it has since been impossible to trace her; but as she left her original home shortly after her discharge there is reason to believe that she was able to make a satisfactory use of the limb. The other patients have been kept under observation for three or four months after the accident. In all of these the result of treatment was maintained; in two there was undoubtedly osseous union; in the other two it was impossible to be certain whether the uniting material was or was not bone, but the vertical diameter of the patella was the same as in the sound limb. Some little stiffness in the joint was present in all the cases after the removal of the splint, but it yielded to treatment. The stout patient, whose weight must have exceeded 16 st., had the ill luck to

FIG. 1.

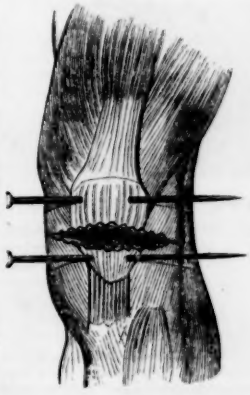
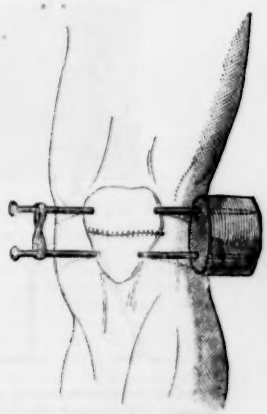


FIG. 2.



fall about fourteen weeks after the original accident and was readmitted into the hospital, with considerable pain and some swelling in the knee, but it was found that the patellar union had held good and she returned home at the end of a few days.

Taking these cases as a whole they may be regarded as very satisfactory. The occurrence of suppuration in one instance, that of the alcoholic subject—and it may here be noticed that alcoholics are singularly prone to suppuration after surgical operation, in spite of the most careful antiseptic precautions—is of interest in showing that even this accident is of no gravity and only prevents so close an approximation of fragments as in other cases where no pus is formed. The resistance to the violent strain caused by the fall in the case of the stout woman may be considered a crucial test of the strength of the union. The temporary stiffness of the joint was merely that which is observed under non-operative treatment and was not in any way connected with the use of the pins.

The patients were retained in the hospital for about six weeks, the knee in each case being kept straight in a plaster splint for a fortnight more, but this latter precaution was probably unnecessary, and in future cases I propose to shorten the period of detention and to allow earlier movement of the articulation.

Harley-street, W.

NEW WATERWORKS, WAKEFIELD.—The chairman of the Waterworks Committee of the Borough Corporation (Councillor J. S. Booth) performed on the 23rd ult. the ceremony of cutting the first sod of the new Withens Reservoir, on the Rishworth Moors, in connexion with the Wakefield new waterworks. The reservoir will have a capacity for 240,000,000 gallons of water. The estimated cost is £120,000.

ON POSTURE AND ITS INDICATIONS.

BY T. LAUDER-BRUNTON, M.D., D.Sc. EDIN., F.R.S., &c.,
ASSISTANT PHYSICIAN AND LECTURER ON MATERIA MEDICA AND THERAPEUTICS AT ST. BARTHOLOMEW'S HOSPITAL.

IN a former paper[1] I observed that I thought medicine lost a great deal by its practitioners either not recording their experience at all, or not recording it in such a form as to be readily available for their fellow practitioners, or with sufficient precision to be really useful. As examples of vagueness and precision I instanced a verbal description of a face as commonly given, and a sketch containing all the features more or less precisely drawn. In the present paper I have tried in a very imperfect way to indicate the common postures which one meets with daily, either in patients or others, and to discover the reason why those postures are assumed. I have not attempted to draw the figures, for this would have been beyond my powers, and probably also beyond the powers of many medical men. I have simply indicated the position

FIG. 1.

FIG. 2.

by a few simple lines such as anyone can draw. This method is one which was employed with great success by the late Professor Goodsir more than thirty years ago in illustrating his lectures on anatomy. In a few lines he conveyed the impression of the agility of the cat as compared with the heavy movements of the ox or of the elephant, and the absence of detail fixed the minds of his students all the more firmly on the main facts which he wished them to carry away. As we walk along the streets and notice the difference of attitude in the passers-by,

FIG. 3.

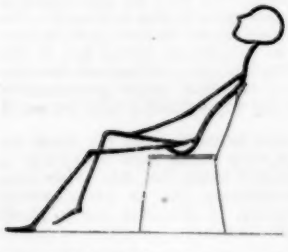


FIG. 4.

some with head erect and agile steps convey to us at once the idea of energy and activity (Fig. 1), while others with hanging heads and bended knees suggest the ideas of languor, weakness and depression (Fig. 2). It is a matter of ancient observation that such an attitude as this is associated with weak circulation, and it is probably more than three thousand years ago that the injunction was given: "Strengthen ye the weak hands and confirm the feeble knees; say to them that are of a fearful heart, Be strong, fear not."[2] Is. xxxv., 3, 4.[2] When the heart is stimulated by joy or hope the attitude again becomes erect and the gait brisk and elastic. It is by no means easy to distinguish exactly between the part played in this change by the motor cells of the nerve centres and by the circulatory apparatus, for the activity of the motor cells on which muscular action depends is itself influenced to an enormous extent by the circulation of blood through the nerve centres. We find an example of this in the

FIG. 5.

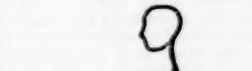
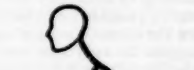


FIG. 6.



attitude unconsciously assumed by anyone engaged in conversation or argument. So long as he takes only a listless interest in the subject under discussion he may lie back in the chair with his legs crossed and his arms either hanging down or his hands laid loosely in his lap (Fig. 3). As his interest increases his attitude becomes more erect (Fig. 4), and he sits straight up, with his hands folded or laid upon his knees instead of hanging listlessly down (Fig. 5). As the interest increases still further the body is bent forwards at an angle and the hand is very probably placed firmly on the thigh (Fig. 6).

FIG. 7.

If he becomes excited in the heat of argument the body is bent forwards at a somewhat acute angle and the hand is stretched out in front and somewhat upwards as if to help the words which flow from his lips to drive the thoughts which are rapidly evolved from his brain into his opponent's mind. (Fig. 7.) In this position the flow of blood through the arterial system onwards to the brain as well as its return backwards through the veins seems to be particularly easy (Fig. 8).

FIG. 8.

Tracing from the brain. A, in upright position; B, with head inclined forwards.

This position is not only assumed during the heat of argument, whether the speaker be sitting or standing, but when one is led to assume it unconsciously it seems to give rise to a rapid and sometimes almost uncontrollable flow of ideas. Thus it occasionally becomes a cause of remorse to devout souls, who during the attempt to pray in church in this atti-

[1] On the Method of Zadig in Medicine, THE LANCET, Jan. 2nd, 1892.

[2] Also, "Lift up the hands which hang down, and the feeble knees, and make straight paths for your feet." Heb. xii., 12.

tude are sadly distracted by crowds of ideas which at once disappear on the assumption of an easy sitting posture. The circulation in the cerebral vessels and the current of ideas in the brain are very delicate things and may be modified by very slight causes; thus an attitude with the head drooping slightly more than that indicated in Fig. 6, and with the chin supported upon the hand is the one frequently assumed in deep thought, with concentration of ideas upon a single subject and no desire for immediate expression (Fig. 9). The touch of the hand upon the head seems to have a directing power over the thoughts which one would formerly have been inclined to deny, but such experiments as those of Tesla and Crookes with electric currents of very high tension give a visible illustration of phenomena previously unknown and seemingly incredible. For in these experiments a person who has put himself into the electric field renders vacuum tubes containing various substances fluorescent and fills them with a glow of coloured light by simply waving his hands over them. The tubes, which were previously dark, owe their luminosity only to the approximation of his hand, yet he himself does not feel that any special power has gone out of him. The contact of the hand with the temples seems as if it could hardly by any possibility modify the circulation in the brain or the feelings of the individual, and yet it appears to have an actually soothing effect and to be a real physical solace in cases of grief and depression (Fig. 10). At the same

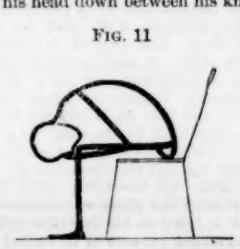
FIG. 9.

FIG. 10

time the greater droop of the head possibly provides for a better supply of blood to the sensory parts of the brain in the posterior part of the head and thus to a certain extent counteracts the general weakness of the circulation. In the case of excitement (Fig. 7), the head being more raised, if a straight line were drawn through the axis of the body so as to represent the line of the aorta and carotid arteries, it would come out at the anterior part of the head; and blood driven onwards in this line would supply nutriment rather to the motor than to the sensory centres.

In cases where the circulation is exceedingly weak and syncope is threatened, a most useful plan is to make the patient put his head down between his knees (Fig. 11), so

FIG. 11



that an ample supply of blood shall reach the cerebral centres. Long ago, before the introduction of anæsthetics, a common plan of rendering patients senseless previously to the performance of an operation was to lay the patient flat upon his back and then suddenly hoist him to a standing posture by six strong men who held him by the arms, three on one side and three on the other. The brain being thus, as it were, lifted away from the blood, became so anæmic that it ceased to act before the circulation could adapt itself to the new posture.

An experience of my own once showed me how very dependent the brain is upon the supply of blood. I was called upon one night after a long day's work to write an article immediately. I sat down with pen, ink and paper before me, but not a single idea came into my head, not a single word could I write. Lying back I soliloquised: "The brain is the same as it was yesterday and it worked then, why will it not work to-day?" Then it occurred to me that the day before I was not so tired and probably the circulation was a little brisker than to-day. I next thought of the various experiments on the connexion between cerebral circulation and mental activity and I concluded that if the blood would not come to the brain the best thing would be to bring the brain down to the blood. I laid my head flat upon the table and at once my ideas began to flow and my pen began to run across the paper. I thought "I am getting on so well I may sit up now," but the moment I raised the head my mind became an utter blank, so I put my head down again flat upon the table and finished my article in that position.

Stimulation of some branch or other of the fifth nerve seems to increase the circulation in the brain and those who are making their utmost calls upon their mental powers are accustomed to stimulate this nerve in one way or another. The late Lord Derby used to eat brandied cherries, and an experiment of Marey's (Fig. 12) proves that mastication will

FIG. 12.

Tracing of the rate of circulation in the carotid. After Marey.

accelerate the flow of blood through the carotid artery, and serves to show the wisdom of an editor whom I knew who used to eat figs while writing a leading article and even of those who indulge in the practice so disagreeable to their neighbours of chewing tobacco. Others stimulate the gustatory branches of the fifth nerve by the sweets which they suck or by the smoke of a cigar or cigarette; while a rustic called upon suddenly to answer a question will probably excite the cutaneous branches of this nerve by scratching his head, and a man of more culture may stroke his moustache or beard, press his forehead or eyes, or, like many Germans, smite his nose with the forefinger.

A similar reason may be given to explain the habit of snuffing formerly so much in vogue. The gentle titillation of the nasal mucous membrane by the snuff probably serves to stimulate the cerebral circulation and the increased arterial tension due to the efforts of sneezing so increases the cerebral nutrition that difficulties seem at once to disappear and obscurities of mental vision are so rapidly removed that snuff is said in popular language to "clear the head." The practice of snuffing has fallen to a great extent into disuse, but it may still be occasionally employed with advantage in cases of severe and persistent headache where other remedies fail to relieve. Even where such a strong irritant as snuff is not resorted to, smelling salts (sal volatile) or aromatic vinegar may give considerable relief in headache if frequently inhaled.

While stimulation of the fifth nerve as just described tends to keep people awake and increase their mental activity, gentle, rhythmical stroking of the head tends, on the contrary, to make them fall asleep, and brushing the hair has this effect on many people to such an extent that the movements of the hairdresser's fingers over the scalp and rhythmical click of the shears will send some people to sleep, even at the risk of having their hair shorn to a much greater extent than would be at all pleasing to them on awakening. A gentle rubbing of the scalp, as if to loosen it upon the skull, also tends not only to sooth irritability, but to relieve and to prevent headaches

External temperature has a powerful effect in determining posture. On a hot summer's day the natural tendency is to lie down with the head slightly raised, the arms hanging loose and one leg extended, while the other perhaps is drawn up, as in Fig. 13. The physiological reason for this posture is that in it the greatest extent of cooling is attained, for it ensures the greatest possible exposure of the largest vascular district in the body—viz., the intestinal vessels—to

the cooling influence of the external air. This is aided by the loss of heat due to the evaporation of sweat. By the slight raising of the head and the drawing up of one leg the abdominal parietes are rendered loose and the intestines tend to fall sideways and the abdomen tends to become flattened from before backwards. The greatest extent of cooling surface is thus obtained and the temperature of the body is kept as low as possible.

An entirely opposite attitude is assumed when the external air is cold (Fig. 14). The thin abdominal walls being insufficient to protect the intestinal vessels from the cooling influence of the external air, the legs are drawn up until the thick muscles of the thigh form a warm covering to the abdomen and thus prevent loss of heat from the intestinal vessels. Many people are unable to get to sleep when they are at all cold, and Rosenthal has shown that this attitude

FIG. 13.

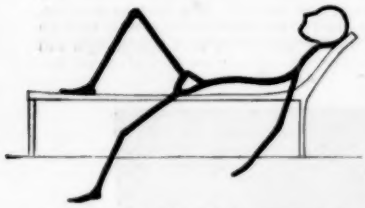


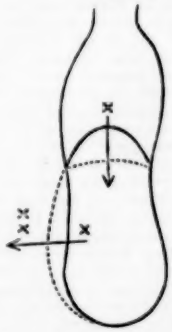
FIG. 14.

is commonly adopted by men, dogs and other animals when preparing to sleep so as not only to maintain the bodily temperature during sleep, but to allow the intestinal vessels to dilate and accommodate a mass of blood which would otherwise be driven into the cerebral circulation, stimulating it to functional activity and keeping the person or animal awake.

The attitude of the body may be altered permanently by occupation or disease in such a way that one accustomed to pay attention to this subject can frequently make out with a little trouble a good deal regarding the patient's history and illnesses. Thus a chronic cough has the effect of inflating the chest and rounding the back, so that one might almost guess from the figure (15) that the person so shaped was liable to chronic bronchitis. The more tightly a bladder is blown up with air the more tense does it become and the more does it

FIG. 15.

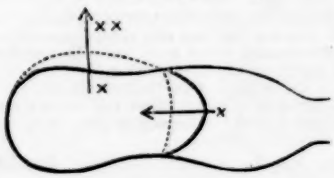
FIG. 16.



take a circular form. In the same way the more an alveolus of the lung is blown up by the efforts of coughing the more does it resemble the inflated bladder. What is true of a single alveolus is true of the chest as a whole. It tends as nearly as possible to become globular, with a circular outline not only in the transverse, but in the longitudinal direction. The sternum and vertebræ prevent it from becoming completely globular, notwithstanding all efforts, and it thus assumes the barrel shape so characteristic of emphysema, as being the nearest possible approach to a globe. In going through a hospital ward one sees here and there patients who are constantly sitting up in bed and do not lie down at all; these are for the most part people who have great difficulty of breathing. The reason for this position has no doubt been often given, but I do not recollect coming across it in print and I cannot say whether the reason that I now give has been evolved from my own brain or whether I have learned it from others.

When a man is sitting upright the diaphragm moves up and down during respiration. (Fig. 16.) At each inspiration it descends and displaces the intestines and the abdominal walls outwards. During each expiration the diaphragm ascends and the intestines and abdominal wall return back to their former position. In the upright posture the diaphragm moves vertically, but the abdominal walls and intestines move in a horizontal plane and there is no lifting work for the diaphragm to do. The case is quite different when a man is lying on his back, for then the diaphragm moves in a horizontal plane and the abdominal walls and intestines in a vertical one. During inspiration as the diaphragm encroaches on the abdomen for the purpose of enlarging the thorax (Fig. 17)

FIG. 17.



it has actually to raise the intestines and the abdominal walls instead of merely moving them in a horizontal plane. As the diaphragm returns into the thorax during inspiration its progress will be accelerated by the weight of the descending intestines, and thus the recumbent posture may be sometimes useful in cases of bronchitis with emphysema, and so such cases may be seen sometimes lying down although there is considerable interference with the aeration of the blood. In cases of cardiac disease no benefit of this kind is obtained, and therefore we find that a large proportion of those whom we see sitting upright in bed in a hospital ward are suffering from disease of the heart.

When a patient lies upon his side the intestines also move in a horizontal plane, and this is the position usually assumed during healthy sleep, for in it there is no interference with expiration any more than when the patient is sitting upright, while at the same time the rest obtained is much more complete. The side upon which one lies is immaterial to most healthy persons and they frequently lie first upon one and then on another, turning over perhaps several times in the course of the night; but in cardiac disease or cardiac irritability without organic disease patients frequently are unable to lie upon the left side because the heart beats against the ribs with such force as to cause physical discomfort. At the same time the heart itself appears to be stimulated by the blows which it gives itself against the thoracic walls and to palpitate more violently than before. The patient is therefore obliged to lie upon the right side. A similar result may occur if the liver is enlarged or congested, for then it seems to drag upon the suspensory ligaments when the patient lies upon the left side and thus he is obliged to turn round that the liver may be supported by the ribs. If a heavy meal has been taken shortly before retiring to rest the person may be unable to lie upon his left side because the stomach drags upon its pyloric end. On the other hand, if the stomach is distended by flatulence the gases sometimes will not escape while the patient is lying on his left side and he must either be raised into the sitting posture or be turned on his left side to allow the gas to eructate by the œsophagus and the tension in the stomach to be relieved,[2] for the œsophagus joins the stomach at such an angle that when the patient is on his left side the gases appear to accumulate and not to find an exit through the œsophagus, but when he is on his left side they pass upwards with comparative ease. This of course is a matter of very slight moment to patients who are able to move readily, because they adjust their own position at will and soon find out which is the most easy one for them. But when a patient is so weak that he is unable to move himself he is frequently allowed to lie flat on his back and to suffer

[2] I have found this practice useful. The explanation I have given of its utility was, I think, suggested to me several years ago by John Haddon, M.A., M.D

much from abdominal distension and even from difficulty of breathing, due to the diaphragm being pushed upwards when he might be relieved by simply sitting him up for a few minutes or turning him over on his left side.

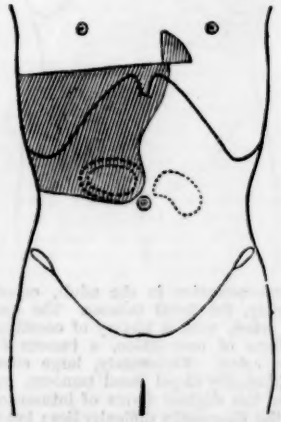
In this short paper I have made no reference to many other postures in disease, neither have I attempted to discuss the postures due to trade, nor have I attempted to make the paper complete. I have merely tried to give an illustration of an easy method of recording posture in a tolerably precise and easily understood way and have attempted to connect external signs with physiological conditions as an illustration of the method of tracking which I mentioned in a former paper in the hope of inducing others to prosecute the same line of work.

A CASE OF INTUSSUSCEPTION ASSOCIATED WITH CANCER OF THE CÆCUM.

BY SIDNEY COUPLAND, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE MIDDLESEX HOSPITAL.

IN his monograph on Intestinal Obstruction,[1] Mr. Treves points out that whereas of all cases of intussusception more than 50 per cent. occur in the first decade of life, yet in the chronic varieties alone the period of greatest frequency is between the twenty-first and fortieth years. He also shows that the majority of subacute and chronic cases are of the ileo-cæcal variety—about three-fourths. These two facts may be allied with a third—namely, the association of chronic invaginations with epitheliomatous disease of the bowel. Mr. Treves[2] has no doubt that in some cases the new growth may arise subsequently to the intussusception, but seeing that other forms of intestinal tumour are indubitably provoking

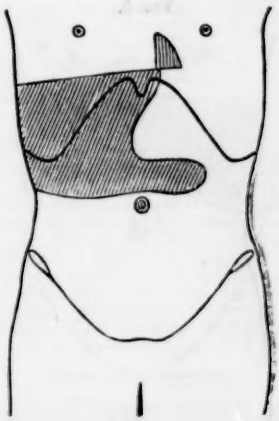
FIG. 1.



causes of an invagination, it is highly probable that in many instances the malignant growth has antedated the formation of the intussusception. In the following case we seem to have an example of this, although it is not possible to assert positively that such a sequence existed.

C. L——, a French polisher, forty years of age, was admitted into Hertford ward of the Middlesex Hospital on Feb. 26th, 1892, complaining of a swelling in the abdomen, which had appeared after severe colicky pains, from which he had suffered for about ten days, accompanied at first with vomiting. Since childhood he had been subject to attacks of jaundice and bilious vomiting and his bowels were habitually constipated, but it was only in November last that he began to be attacked with colic. At the end of that month he began to have griping pains about the umbilical region, which came and went in paroxysms, without relation to meals or rest. He was treated at a dispensary and was completely relieved for a week, when the pains recurred and again intermitted. The intervals of freedom from the colic became shorter and each returning attack more severe, until towards the end of January he was free from pain for about a fortnight. On Feb. 17th, at the close of his day's work, just after his supper, the colic recurred with great severity, "doubling him up" and causing him to vomit at times during the night and on the next day, there being very little remission of the pain until the day of his admission into the hospital, when it ceased. He was a well-developed, fairly muscular man; there was no jaundice; the tongue was moist and covered with a white fur. The abdomen was somewhat prominent in the umbilical region, and on palpation a rounded cylindrical swelling could be felt passing towards the right from the umbilicus over the lower edge of the liver in the course of the colon. This swelling was dull on percussion, the dulness being continuous with that of the liver and passing also into the right flank. (Fig. 1.) Above, the line of the hepatic dulness was at the level of the sixth rib in the nipple line. There was nothing else abnormal in the case. The lung signs were healthy, the heart sounds normal and the apex beat in the usual position. The pulse rate was not increased and the temperature was normal. The urine was acid, sp. gr. 1020, free from albumen and sugar. As there were no urgent symptoms and absolutely no pain nothing active was attempted, but rest in bed and a low diet were prescribed. Except for the fact that the tumour had apparently disappeared from the right and now lay wholly to the left of the

FIG. 2.



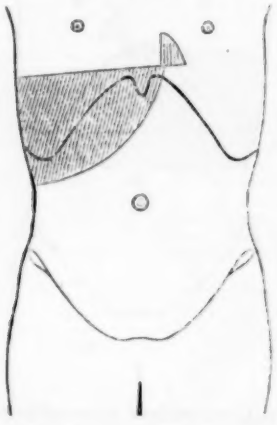
umbilicus (Fig. 1, area enclosed by dotted line) there was no change in his condition a week later—namely, on March 4th. The bowels, however, had not been satisfactorily opened, and under the impression that the mass was a fæcal tumour (too little regard being paid to the previous history of the case) an enema of olive oil, followed by a simple enema, was administered more than once, with the result that a fairly copious motion followed each injection, containing some scybalous masses. This treatment was repeated on the succeeding two days, but no appreciable difference was observed in the size or position of the tumour. Accordingly on March 6th he was given a drachm of castor oil every four hours, which had the effect of opening the bowels freely and caused the tumour to assume a lower position. But it did not disappear, and on the 8th it seemed to be again continuous with the liver (Fig. 2), of which the dulness reached down to the umbilicus; the swelling projecting from the liver towards the left. Between this observation and the next note on the morning of the 9th the bowels had been again freely opened, whilst the tumour had entirely disappeared: the hepatic dulness was once more of normal extent, not reaching more than two inches below the costal arch and the area hitherto occupied by the swelling was quite resonant. (Fig. 3.) This change being maintained and the patient feeling quite well, he was discharged on March 12th. The idea that the case was one of fæcal accumulation seemed to be borne out by the result of the measures directed to evacuate the bowel, but it is clear from the later history of the case that the condition was probably one of intussuscep-

[1] Intestinal Obstruction, Cassell and Co., 1884; pp. 217, 237.
[2] Loc. cit., p. 200.

tion, which had become spontaneously reduced; and it seems more than likely that the attacks of colic from which he had suffered off and on for three months were also due to the peristalsis which precedes invagination and indeed causes it, or even to a series of recurrent intussusceptions.

Nothing more was heard of the patient until Thursday, May 26th, when he came to the out-patient department stating that since the 23rd he had been suffering from abdominal pain and vomiting and the passage of blood from the bowel. It appears that on the 21st he took some jalap, which opened his bowels eight times, and on the 23rd, whilst at work, he was suddenly seized with severe pain in the abdomen and vomiting. Shortly after this he passed some blood. He took to his bed and had medical advice, but the vomiting continued every four hours, as well as the melæna, and the pain did not diminish. On the night of the 26th he noticed for the first time that the motions, instead of being mere blood as hitherto, were blackish and offensive. He was readmitted on the 31st. We found him looking anxious and complaining much of abdominal pain. The abdomen, which was tender, was tense and tympanitic and was manifestly more prominent on the right half than the left. Crossing the abdomen from the right flank to the left hypochondrium there could be seen and felt a cylindrical swelling slightly curved, the concavity being downwards. It was very firm and rounded; the right half of it was dull on percussion, the dulness being continuous with that of the liver, whilst the left half was resonant. (Fig. 4.) The man was not collapsed; the

FIG. 3.

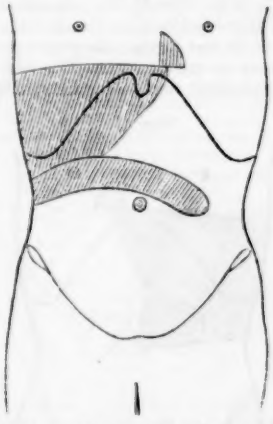


pulse was 98, fairly full and regular. There was no tenesmus. There was no doubt now that he was the subject of an intussusception, which was strangulated and probably commencing to slough. It was obvious from the duration of the symptoms, as well as the extent and probable condition of the invagination, that surgical interference was out of the question. There seemed no other alternative than to give opium freely and support his strength during the slow process which the natural cure of such a condition entails. At the same time, as the bowels had not been recently moved, the colon was gently irrigated with warm water in order to determine whether the motions showed evidence that sloughing was in progress. Some dark-brownish fluid came away having a fæcal odour but containing no sloughs. The next day (June 1st) his condition had markedly changed for the worse. He had suffered from more pain in the night and had vomited about a pint of dark feculent-looking fluid, which, however, had no distinct fæcal odour. The abdomen was more tense and the pain was aggravated paroxysmally. It was observed that with each recurrence of the pain the tumour (otherwise unchanged) seemed to become firmer. The man looked pinched and his pulse was smaller and harder, 120 to the minute. The symptoms rapidly increased in severity, vomiting became incessant, the bowels were opened twice, motions dark brown and fluid; no blood, mucus, or sloughs were passed. The abdomen became more and more distended, the pulse more rapid (138) and after an hour of noisy delirium he died at 6.30 P.M. During the last hour he had profuse fæcal vomiting. It may be added that at no time during his stay in the hospital was the temperature above normal.

The post-mortem examination was made on the following day by Dr. Voelcker, from whose notes the following report is condensed. The peritoneal cavity contained a slight excess of clear fluid. The intestines were much distended and lines of red injection were observed along the contiguous coils. There was no lymph; no fæcal extravasation. The hepatic flexure of the colon and the first part of the transverse colon formed a large cylindrical tumour due to the invagination into the gut of the cæcum and part of the ileum, the length of the whole mass being ten inches and a half. On laying open the colon, the mucous membrane of the intussuscepted bowel was seen to be intensely reddened and swollen and it had commenced to slough near its free extremity. Here also could be seen two orifices—namely, one leading into the appendix cæci, the other into the ileum. Moreover, at the upper part of the head of the intussusception the lining membrane was replaced over an area of the size of a crown piece by a soft, whitish, fungating and ulcerating mass of new growth. No adhesions could be made out between the serous layers of the intussusception. The rest of the intestines and the stomach showed nothing abnormal. The liver and kidneys were pale and in a condition of cloudy swelling. Both lungs were congested and œdematous, the heart was flabby, but otherwise natural. No new growth was found in any other part of the body.

The case speaks for itself. It illustrates the possibility of

FIG. 4.



mistaking intussusception in the adult, especially of the ileo-cæcal variety, for fæcal tumour. The error has been made before, when, with a history of constipation and no urgent symptoms of obstruction, a tumour forms in the region of the colon. Fortunately, large enemata, which generally satisfactorily dispel fæcal tumours, may have the same effect on the slighter forms of intussusception, with which alone the diagnostic difficulty lies; but it is remarkable that, whereas in this case enemata failed to produce that result, it took place after the administration of castor oil, a treatment which would certainly not have been adopted had the diagnosis been correctly made. On the second occasion there was no doubt at all as to the intussusception, but it is to be regretted that the patient did not seek admission into the hospital on May 23rd instead of the 31st, for then its reduction might have been successfully effected. The post-mortem examination did not show such complete strangulation, nor such advanced inflammation as was anticipated. The growth, which has the appearance of epithelioma (a microscopical examination has not yet been made), arose in the cæcum and it was probably the exciting cause of the intussusception.

Queen Anne-street, W.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The fifty-first annual meeting of the Association will be held on Thursday, 21st prox., at The Retreat, York, in honour of the centenary of the foundation of the institution. Dr. Robert Baker will preside.

CANCER OF THE EAR.

BY SIR WILLIAM DALBY, F.R.C.S. ENG.,
CONSULTING AURAL SURGEON TO ST. GEORGE'S HOSPITAL.

IN the history of cancer, which is at the present time subjected to such rigid analysis and receives such able handling from the Bradshaw lecturers, it seems advisable to place on record the experiences of individuals who have more than the usual opportunities of observing the occurrence of cancer in any especial locality, so I therefore embody what experience I possess in a few observations on cancer as it has come before my notice during the past twenty years in the very limited area of the ear. With one exception, as will be noted, this area might be more limited by using the term "middle ear" and even still further by saying "the cavity of the tympanum." In the course, then, of twenty years I have only seen six cases in all, including both hospital and private practice, and, without knowing what the experience of others may have been in a similar time, I should be inclined to say that, considering the opportunities I have had, cancer of the ear is comparatively speaking a rare disease. It is to be remembered how exceedingly often the mucous membrane which lines the tympanum is left in an exposed position, this being due to the fact that an enormous number of persons pass the largest part of their lives with a perforation of the tympanic membrane in one or both ears. The first point to be observed is that in the four cases I had seen up to 1885 and in all the recorded cases I could find (and there were very few) the patients had suffered for a considerable time from a discharge from the ear, evidently arising from a perforation, before any symptoms of malignant disease appeared and that in the early stages the appearances most closely resembled polypus arising from the tympanic cavity or ordinary bone granulations. Thus the presence of a constant discharge acted as a local irritation in each case. But in the first case everything, so to speak, arose *ab initio* from a local irritation, even the perforation itself. This case may be found recorded in vol. lxii. of the Medical and Chirurgical Transactions in a paper on "Disease of the Mastoid Bone" as follows:—

"In March, 1878, A. S——, a married woman aged thirty-two, whilst picking her left ear with a hair-pin, ruptured the tympanic membrane and soon after the accident came under my notice as an out-patient of St. George's Hospital. With the exception of this lesion she was, in all respects, in good health. The rupture did not heal and in a few days, from the fistulous opening thus established, there was a purulent discharge. A month later, after an attack of pain in the ear, which was followed by facial paralysis of that side, I again examined the ear and found a polypoid mass filling up the cavity of the tympanum, the membrane having by this time quite gone. She now came into the hospital. I removed the polypoid growth, and the pains in the ear, which had previously been considerable, passed off. Her stay in hospital on this occasion was three weeks. On July 31st, when she again applied for relief and was admitted, she stated that she had suffered from no further pain until within five weeks, when acute pain in the ear came on and soon afterwards the parts over the mastoid process became swollen and tender. Two weeks ago, she said, the skin over the swelling broke down and a little bloody matter was discharged. The ragged wound at that time observable was the result, and from this wound had been coming ever since a quantity of watery, very foul-smelling discharge. The skin over the mass was bluish, the tissues were infiltrated and the edges of the wound were everted and hard. In short, the disease was to all appearance malignant. There were no enlarged glands, neither was there any history to be obtained of cancer in her family. No loose bone could be detected, although a large surface of bone was exposed. From this time she rapidly wasted; the wound increased in size until it formed a large cavity discharging most offensive matter and she died on Nov. 12th from exhaustion without any head symptoms or hæmorrhage."

The origin of the perforation here was traumatic, but the origin of the cancer was a discharging surface. The same might be said of a case reported in the Pathological Transactions for 1850 by the late Mr. Cooper Forster, for although the boy was knocked down by a cab and so received a violent blow on the head, he is said to have after this suffered from great pain in the ear, followed by facial palsy, so that although the blow was the cause of the inflammation within the tympanum, the suppuration in this cavity preceded the appearance of cancer. I am able only to mention two cases in which this precedence of suppuration did not obtain. One was in the last case which I saw—a woman about fifty years of age—whom I saw on Feb. 15th of this year with Dr. Meek of Herne-hill. There was no history of inflammation of the tympanum. She had constant gnawing pain in the ear for three months, a partial facial paralysis coming on very gradually and a most fetid discharge from the ear with occasional bleeding. The external canal was filled with a soft-looking, exuberant mass, which when examined by a probe had a spongy feel and bled upon the most gentle manipulation. In short, it had all the appearance of a malignant growth. A distinct family history of cancer gave strong additional probability to the diagnosis. On removing the mass under ether a few days later it was found to be soft and pulpy. On examining portions under the microscope, Dr. Rolleston, the curator of the museum at St. George's Hospital, reported: "Sections show typical cell-nests composed of squamous epithelium surrounded by granulation tissue. The growth is therefore a squamous-celled epithelioma which has probably been growing for a considerable time." This was the character in all the cases I have seen except one, when I had not the opportunity of an examination. This patient died on May 4th, having developed a week previously some symptoms of cerebral irritation but none of pressure. I learned this from Dr. E. H. Young's letter to Dr. Meek, Dr. Young having attended her at Okehampton up to her death. Like other cases which I had seen at the time of death, the growth had involved a considerable area. In one instance the internal carotid gave way and the patient died in her sleep from suffocation. Amongst the six cases the one solitary example in which the disease did not start in the tympanic cavity it commenced by an ulceration over the mastoid process close to the junction of the outer ear and proceeded inwards, eroding the mastoid.

There is not much more to be said about cancer of the ear except to repeat that in one case only was a predisposition discoverable; in one case only did the growth commence elsewhere than in the tympanic cavity; that in two cases (and this includes Mr. Cooper Forster's) an injury started the suppuration; that they all died within six months of the discovery of the growth; that the proportion of cases in which a perforation is followed by cancer is extraordinarily rare; that there is only one case of tympanic origin that was not preceded by suppuration; that considering how frequently the tympanic cavity is the seat of suppuration, this surface possesses a remarkable immunity from cancer; finally, that cancer of the ear is one of the rarest of diseases.

Savile-row, W.

REMARKS ON THE EVACUATION OF DÉBRIS AFTER LITHOTRITY.

BY REGINALD HARRISON, F.R.C.S. ENG.

SURGEON-MAJOR FORBES KEITH having described in THE LANCET of June 11th, 1892, a method of removing stone fragments after lithotrity other than by the process of evacuation with the aspirators at present in vogue, I will describe a procedure I have seen during the last twelve months at M. Guyon's clinic at the Necker Hospital and elsewhere in his practice, which seems to possess certain advantages. I have adopted it myself to some extent and I know that other surgeons think favourably of it. There can be no doubt that the shortcomings of lithotrity are chiefly connected with the difficulty existing of guaranteeing that every fragment, however small, is removed and that nothing is left behind on the completion of a crushing operation which is capable of furnishing a starting point for another concretion. Of all the conditions favourable to the reproduction of stone this is probably the most fertile one and all proposals tending to diminish the liability in this direction are deserving of careful consideration.

M. Guyon's practice, as I have now observed it on several occasions in public and private work, is as follows. The patient being fully anæsthetised, the fenestrated lithotrite is introduced, and the stone is not merely broken up but absolutely pulverised. In the last case I saw, a urate-phosphate stone with

a diameter which only just brought it within the grasp of the largest lithotrite, was subjected to a process of trituration which lasted for twenty-five minutes by my watch, without, I believe—as far as I can remember—a single withdrawal of the instrument. When no fragments could be felt with the lithotrite the evacuating catheter was introduced. The latter consisted of a full-sized instrument with a large eye on either side of the beak. No aspirator was attached to it such as we are in the habit of using for withdrawing fragments by suction-pressure, but after the bladder had been allowed to empty itself spontaneously of its contents by the catheter an ordinary syringe was attached to the latter and about six ounces of warm boracic lotion were gently injected. Then the syringe was disconnected and the bladder allowed to empty itself, this process being continued until the contents of the syringe were returned absolutely pure. The bladder was finally washed out with a solution of nitrate of silver (1 per 1000) and a rubber drainage catheter was passed and retained for twenty-four hours. The operation was completed in forty minutes and considerably over an ounce of stone powder was withdrawn suspended in boracic lotion. The total amount of blood was little more than sufficient to colour the water and entirely disappeared before the syringing was completed. I examined the débris after it had all been collected. In its moist state it had the appearance and feel of soft homogeneous mud. There were no appreciable fragments of stone in it.

The following were the points noticeable in this and similar procedures, as elsewhere observed. 1. The use of the lithotrite to produce this effect was necessarily more prolonged than where mere fragmentation is the object. This, with the patient under an anæsthetic, is a matter of no importance so long as the lithotrite is carefully used. 2. The less frequent introduction of lithotrites and evacuating catheters along the urethra. This is a point of some little importance where the prostate is large and the deep urethra irregular. 3. The back action of the suction apparatus by means of which fragments of stone often become impacted in the sacculæ and lacunæ which are found in bladders complicated with enlarged and irregular prostates is done away with. The force of a syringe is probably less than that of the back action of a strong rubber bag compressed by the hand. Further, impalpable wet powder is substituted for irregular fragments of stone. The latter by their nature are not only more liable to become impacted in depressions within the bladder wall, but by their movements under the force of the aspirator to wound the mucous membrane, as illustrated particularly by Surgeon-Major Keith in the paper referred to. 4. With the syringe there is no chance of fragments once withdrawn being washed back by any return current into the bladder. No aspirator that I have yet seen is free from this objection.

I am not aware that there are at present any statistics indicating the relative frequency of recurrence after these two methods. That the subject is worthy of careful consideration is evident from the large number of recurrences which follow lithotrity, more particularly in those cases which are further complicated with conditions rendering the patient completely dependent on the use of the catheter.

Lower Berkeley-street, W.

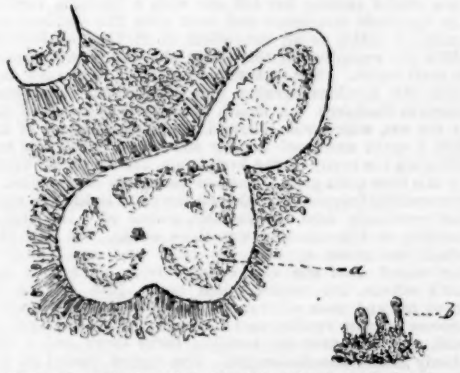
ON ACTINOMYCOSIS OF THE FOOT, COMMONLY KNOWN AS MADURA FOOT.

BY R. T. HEWLETT, M.B.,

DEMONSTRATOR OF BACTERIOLOGY, KING'S COLLEGE, LONDON.

IN 1886 Dr. Vandyke Carter[1] drew attention to the close resemblance between mycetoma (Madura disease) and actinomycosis, in their clinical and pathological characters and microscopical appearances. With regard to the latter, he says: "This resemblance obtains as regards both dimensions and form of the granular central body, with its ray-like envelope and exudation-cell surroundings; and incidental differences apart, it is so distinct that for my own part I cannot but infer that in these two instances at least the foreign bodies must be of an approximate character. There are no other structures I am aware of in the whole range of pathological histology which could compare so closely as these two; and in ordinary scrutinies, with like conforming results, the inference would be as just intimated. ..... I am disposed to conclude that one form of actinomycosis presents a morbid structure which is nearly homologous to that characterising a frequent variety of mycetoma." In the same year at the Pathological Society, in a discussion on a paper by Dr. T. Acland on Actinomycosis, Dr. Bristowe[2] expressed the opinion that similar appearances were met with in actinomycosis and Madura disease.

Bassini[3] in 1888 examined a case of Madura foot and, though he failed to recognise the true nature of the disease, the description which he gave, as Baumgarten[4] pointed out, at once recalls to mind the pathology of actinomycosis. In January last Mr. Kanthack exhibited specimens of Madura disease of hand and foot at the Pathological Society. I was not at the meeting and can only judge of the nature of his communication from the short reports which appeared in THE LANCET.[5] Mr. Kanthack is reported to have stated that the Madura disease was undoubtedly due to a fungus and that this fungus was identical in its staining reactions with actinomyces. In May last Dr. Curnow received a specimen of Madura foot from Surgeon-Major Hatch, I.M.S., and presented it to Professor Crookshank, who asked me to examine it by the modern methods used for actinomycosis. The disease occupies the whole of the foot and the lower third of the leg. The foot is enlarged, the bones softened and carious and small abscess cavities are scattered through the tissues and communicate with the surface by several sinuses, the external openings of which have raised and thickened margins. There are other small cavities containing many fine yellowish particles, the so-called roe-like granules, and hence the specimen belongs to what has been described as the pale variety of Madura disease. The raised margin of a sinus was removed and sections prepared from it. In the unstained condition the appearances are characteristic. Scattered through the sections are yellowish bodies varying somewhat in size and frequently of a more or less reniform shape and occurring in groups of three or four or more. These bodies are somewhat granular, have distinct margins and are surrounded by an indistinct, radiating structure, beyond which again are round cells, the whole being enclosed in a distinct fibrous capsule. The appearances in stained specimens are conclusive as to the nature of the fungus. By the method of Gram the so-called "fairy-rings" of the fungus



Section from Madura foot stained by Gram's method and with orange-rubin. *a*, Network of fine filaments stained blue, × 250. *b*, Clubs at margin stained with orange-rubin, × 800.

are occupied by a central network of fine, branching, interlacing filaments stained blue (*a*), but the club-shaped bodies are unstained. By staining with orange-rubin, however, typical clubs can be demonstrated at the periphery (*b*).

No doubt the presence of a network of filaments and the apparent absence of the club-shaped bodies have been the causes of hesitation in fully recognising the identity of actinomycosis hominis (including Madura disease) and actinomycosis bovis. As Professor Crookshank demonstrated at the International Congress of Hygiene last summer, the actinomyces is a pleo-morphic organism; in cattle the clubs are almost

[1] Trans. Med. and Phys. Soc. of Bombay, No. ix., 1886, p. 86 (abstract in THE LANCET, vol. i. 1886, p. 321).

[2] THE LANCET, vol. i. 1886, p. 973.
[3] Archivio per le Scien. Med., vol. xii., 1884, No. 15, p. 309.
[4] Centr. f. Bact. und Par., iv., 1890, p. 682.
[5] Jan. 23rd, 1892.

invariably well marked and readily stained by Gram's method, while there is a central area which as a rule remains unstained. In man the reverse of this is the case. These two extremes, however, are connected by intermediate forms; in cattle the filamentous network, so characteristic of the disease in man, occasionally appears. In the disease in man the clubs can usually be demonstrated, in sections by special methods of staining (orange-rubin &c.), but especially by examining the fungi in the fresh state.

Mr. Kanthack is reported to have stated that actinomycosis bovis cannot be stained by Gram's method unless the saponaceous and calcareous matter be first removed. This, however, is not the case, brilliant results being obtained by Gram's method without preliminary treatment when clubs only are present and in the rarer bovine cases in which filaments and clubs are found. The microscopical appearances in Madura disease, both in the stained and unstained conditions, are then identical with those in actinomycosis; clinically and pathologically the diseases resemble each other closely and there can no longer be any hesitation in accepting the view first put forward by Dr. Carter that Madura disease is a manifestation of actinomycosis in man. Professor Crookshank concurs in this opinion and I must thank him for allowing me to publish the case and for helping me with the literature of the subject.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTES FROM A PRACTITIONER'S CASE-BOOK.

By H. HOWARD MURPHY, M.D.CANTAB.

Chorea in the Adult.—Early in March, 1892, a lady aged twenty-six had follicular tonsillitis which she had suffered from several times previously. She had never had rheumatism nor had any others of the family. After a week the temperature still kept up and the tonsils remained large, though inflammation had quite subsided. A few days later jerky movements were noticed in the right hand and arm which developed shortly into a typical attack of general chorea. The movements ceased during sleep, but were violent enough by day to make the skin red and threaten to ulcerate over the elbows and knees. The mind was much affected, memory a blank even of events occurring a few minutes previously, recognition of relatives often failing for a time; the speech was very slow and jerky, imaginary events related as real and persons falsely accused of unkind actions. There was a loud mitral systolic murmur. After six weeks there was much loss of flesh and weight and she could not stand at first. Now, three months from the commencement, she is quite well in every way and the murmur has gone. She was treated all through with salicylate of soda, a course that seemed rational to me if there is any connexion of chorea with rheumatism. I should be glad to know if this treatment has been used by others and its result. Arsenic in increasing doses was also given for a month during the period of most severe movement, followed by iron and strychnia as this abated. The writers on chorea say that complete recovery is not usual in adult patients.

Dislocation of Patella.—A few days ago I was hastily summoned to see an elderly woman who "had put her knee out," the messenger said. On arrival the left leg was fully extended, could not be bent and was suffering some pain. On examination the patella was obviously much displaced; its upper edge projected very much forwards, its lower edge, with the attached ligamentum patella, was correspondingly depressed, dipping into the joint, and the skin and tissues at each side of the ligament bulged forwards, partially overlapping it. There was no fracture or lateral rotation. She could not bend the knee at all and I could hardly move the patella laterally even with some force. The lower end of the patella I concluded had got caught on the transverse ligament connecting the semilunar cartilages, or perhaps on one of the cartilages themselves. It was reduced by traction and flexion of the joint, when, with a loud snap, the patella recovered its position and the patient could freely move the joint. Immediate removal to bed and an icebag did not suffice to prevent a considerable though painless effusion following. The displacement occurred while she was kneeling on a chair with the left knee bent and reaching forwards and the right foot was on the ground. When she stood up and straightened the limb she was unable to flex it and noticed the distortion. I have not been able to find any mention of such a dislocation of the patella (if it deserves such a title) in any of the text-books.

These cases, medical and surgical, were followed a few days ago by an obstetric one.

Procidentia Uteri.—A woman about twenty-seven years of age engaged me to attend her in her confinement at the end of May, 1892. She had had one child seven years before by a former marriage and had suffered ever since from a bearing down of the womb, which she alleged occasionally protruded from the vagina, but which she had always been able to replace herself. Her husband called me out of bed about a fortnight before the time she expected, saying she had her womb down and could not get it back and was suffering dreadfully. On arrival I found a mass rather larger than my fist protruding from the vagina, which grasped it pretty tightly. Its covering was a dry mucous membrane appearing like the lips. It was œdematous, moderately firm and had the tube-like os in the centre. After steady compression and cleansing and anointing with antiseptic ointment it was with some difficulty reduced, nor did it tend to come down again. Next morning labour pains had set in. On examination the swelling had entirely gone; the os was the size of a shilling, its margins thin and sharp. To my surprise a very slow and tedious labour from a rigid os resulted and was only terminated next night by forceps. The patient has done well since, but when she gets up some support to the uterus will no doubt be necessary.

East Twickenham.

THE EFFECT OF BLANK CARTRIDGES ON TISSUES.

By J. M. ATKINSON, M.B. LOND. &c.

T. Y——, aged thirteen, was admitted to the hospital at 11.50 A.M. on Feb. 24th, 1892, in a state of collapse occasioned by hæmorrhage from a wound in the left groin. On examination there was a wound in the left inguinal region, circular in shape, about the size of a ten-cent piece, situated just below Poupart's ligament, one inch external to the line of the femoral artery. This was filled with blood-clot and on removing the pad and bandage with which it had been dressed there was copious hæmorrhage from the wound. This was controlled by pressure on the left external iliac artery. The patient being anæsthetised, the A.C.E. mixture being used, this wound was explored and was found to extend inwards some inch and a half, tearing up the muscles and completely severing the femoral artery. The two ends of the artery were tied with a silk ligature, the wound was syringed with corrosive solution and a small drainage-tube inserted, the edges being brought together with catgut. The collapse was extreme, the pulse improving slightly under the influence of the anæsthetic. Ten minims of ether were injected hypodermically and hot-water tins applied, the left lower limb being swathed in cotton wool. By 3 P.M. he had rallied considerably and told me that he was picking up lead at the range at Kowloon that morning and had been shot. Enemata of brandy and beef-tea were given and one-tenth grain of morphia injected hypodermically. Shortly after 7 P.M. his pulse became much weaker; some six ounces of a neutral saline solution were transfused, without any relief, however. He gradually sank and died at 7.50 P.M.

Necropsy.—The left femoral artery was found to be severed just below its origin, both ends being secured by ligature; the muscles in the region of the wound were torn to pieces. After careful examination no trace of any wad or foreign body could be found. There was no charring of the edge of the wounds. The clothing of the boy was examined and an irregular tear was found in the left leg of the trousers corresponding to the wound in the boy's thigh; there was no charring of the fabric. On February 25th and 29th experiments were made by Dr. Lowson and myself in the presence of Lieut. Hall and Fleet-Surgeon Mahon, H.M.S. *Impérieuse*, on the effect produced by firing from a Martini-Henri rifle blank cartridges similar to those served

out to the Blue-jackets on the morning this happened, at different distances on cloth &c. The boy's trousers were used and on firing at a distance of two inches there was an irregular tear produced in the cloth with no charring; at a distance of three inches the fabric was charred and at twelve inches it was fired. On placing a piece of the cloth in front of a turnip and firing at a distance of two inches a tear was produced in the cloth and a cone-shaped hole in the turnip, some two inches in depth, with traces of uncharred powder round about, very similar to the hole produced in the boy's thigh. I have no doubt that the wound was caused by the firing of a blank cartridge from a Martini-Henry rifle, the nozzle of the rifle being within two inches of the boy's body.

Government Civil Hospital, Hong Kong.

A PEBBLE IN THE EAR FOR EIGHT YEARS WITHOUT THE PATIENT'S KNOWLEDGE.

By W. R. H. STEWART,

AURAL SURGEON TO THE GREAT NORTHERN CENTRAL HOSPITAL, &c.

A SINGLE lady, kindly sent by my colleague, Mr. Macready, consulted me for deafness on the left side, which had lasted off and on for some years. It had become much worse the week or two before coming to me and there was a rather distressing "hammering" noise in the ear. I found the left meatus plugged with a mass of hardened wax. On using the syringe for its removal out dropped a pebble, evidently from the sea beach. In shape it might be called an irregular cube, measuring on its longest side five-sixteenths of an inch, the other sides being three-sixteenths and one-eighth. The patient had no idea the stone was in the ear and as she had not been to the seaside for over eight years it must have been in the ear all that time. The case is, I think, interesting, for it is strange that so large a pebble had remained all those years in the ear without the patient's knowledge. It also confirms the opinion that a foreign body may lodge in the meatus for a considerable time without producing mischief, provided no injudicious instrumental attempts have been made to remove it.

Devonshire-street, W.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se compare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

ST. THOMAS'S HOSPITAL.

CASES ILLUSTRATING THE TREATMENT OF RECURRENT PELVIC PERITONITIS BY ABDOMINAL SECTION; REMARKS.

(Under the care of Dr. CULLINGWORTH.)

WE commence this week a series of cases recently under the care of Dr. Cullingworth, in which it was necessary to perform the operation of abdominal section. The cases described had a number of points in common which render them of very great interest; in all there was a history of attacks of abdominal pain due to pelvic inflammation and its consequences and in all there was much disease, which could only be cured by the removal of the diseased structures. It is worthy of note that in nearly all of them the operation was one of considerable difficulty and it was necessary to employ drainage of the pelvis afterwards. The results of the treatment are most satisfactory.

CASE 1.—P. B——, aged twenty-five, single, a dressmaker, was admitted into the Adelaide ward on March 2nd, 1892, complaining of abdominal pain and swelling. She had enjoyed good health till three years ago, when she was laid up for three months with an attack of rheumatic fever. Two years and a half ago she was confined to bed for several days by an attack of pelvic inflammation following gonorrhœa. She has since been liable to similar but less severe attacks of pelvic pain. Menstruation has been regular and normal till the first week in December, 1891, when her last period occurred. A fortnight later—i.e., in the third week of December last—she was suddenly seized at midday, while at work, with severe pain in the abdomen and legs. She left her work and went home to bed. The pain in the abdomen continued. A doctor was called in and discovered a swelling in the lower half of the abdomen. The patient had not been conscious of the presence of a tumour in the abdomen till it was noticed by her medical attendant. She has remained in bed ever since; poultices and leeches have been applied with little relief and hypodermic injections of morphia have been administered every night or very often in the morning, on account of the pain and restlessness. She has lost a good deal of flesh and her bowels have been very constipated.

On admission the patient, a thin, highly intelligent, anæmic woman, complained of continuous abdominal pain and swelling of eleven weeks' duration. On examination the abdomen was somewhat resistant and considerable pain and tenderness were complained of, especially in the left iliac region. A smooth tense swelling was defined occupying the left lower half of the abdomen, extending upwards as high as the umbilicus. On the right side was a smaller swelling, its upper limits reaching a point midway between the pubes and umbilicus and extending outwards as far as the outer third of Poupart's ligament. A distant sulcus could be felt between the two swellings superiorly. Both were absolutely fixed and on the left side there was indistinct fluctuation. On bi-manual examination the lateral and posterior fornices were found depressed. The cervix was high up and almost obliterated and the external os closed. Two rounded swellings could be felt through the vaginal roof separated by a distinct sulcus; the smaller one on the right was smooth, soft and rounded and apparently continuous with the cervix, any movement imparted to it by the external hand being directly appreciated by a finger placed on the cervix. The uterine sound was not passed. A hard crescentic mass was felt in Douglas's pouch.

On March 10th, eight days after admission, abdominal section was performed. There had been no material alteration in the physical signs, except that fluctuation had become more evident in the swelling in the left side. Maximum temperature since admission 99° F. On opening the abdomen two suppurating ovarian cysts were discovered; the larger one on the left side contained over a pint of greenish-yellow, inoffensive pus, which was withdrawn by trocar and cannula. The contents of the smaller cyst on the right side were of a similar character. Both cysts were intimately adherent to surrounding parts and especially to the rectum. The body of the uterus, normal in size, was pushed forwards behind the pubes. The broad ligament partially enveloped the cysts anteriorly. There was no cellulitis. The Fallopian tubes were thickened and elongated, but otherwise normal. The operation was somewhat protracted and rendered extremely difficult by reason of the number and density of the adhesions. The right cyst was ruptured during its separation from the neighbouring parts and its purulent contents escaped into the peritoneal cavity. The abdomen was freely douched with boracic-acid lotion, a glass drainage-tube inserted and the wound sutured with silkworm-gut sutures. The patient was returned to bed in a collapsed condition. Temperature 95·6°, pulse almost imperceptible at wrist; cardiac pulsations 154. She gradually rallied and convalescence was afterwards rapid. The sutures were removed on the seventh day; the indiarubber tube, which had replaced the glass tube, was discarded on the twelfth day. The patient got up on the sixteenth day and left the ward on April 22nd, the wound having been healed for ten days. She reported herself a month later in good health.

CASE 2.—E. C——, aged thirty-two, married, was admitted into the Adelaide ward on March 8th, 1892, complaining of severe pain and swelling in the lower part of the abdomen. She was married at the age of nineteen and had never been pregnant. She had menstruated regularly till six weeks ago, when her present illness began. Up to this time she had enjoyed good health. No history of gonorrhœa. Six weeks ago the patient was suddenly attacked in the early morning, while lying in bed, with acute pain in the lower part of the abdomen. She got up for an hour or so, but was compelled to go back on account of the increasing severity of the pain and tenderness of the abdomen. No rigor or vomiting. The pain gradually diminished, but a week later she began to vomit and this has continued more or less severely up to the present. She has also complained of difficulty and pain in micturition. Three weeks ago the

patient first noticed a swelling in the lower part of the abdomen and this has progressively increased in size and become more painful and tender. She has grown much thinner during the last few weeks and has kept her bed up to the time of her admission.

On admission the patient, a pale, emaciated woman with sunken eyes and looking extremely ill, complained of abdominal pain of six weeks' duration. Thoracic organs normal. The lower half of the abdomen is somewhat prominent and asymmetrical, the fulness being more marked on the right. The walls are somewhat rigid. On palpation a smooth, tender swelling can be defined reaching in the middle line to the umbilicus and laterally for a distance of three inches from the middle line. Indistinct sense of fluctuation was obtained. There is resonance over the upper half of the tumour. On bi-manual examination the uterus was found pushed forwards and to the left by two tense cysts, the larger one occupying the right posterior quarter of the pelvis, the smaller a similar position on the left, a distinct sulcus a little to the left of the median plane intervening. Temperature 101° to 102·8°. Urine normal.

On March 14th, six days after admission, the patient having been steadily losing ground and with a temperature ranging from 99·4° to 103·6°, abdominal section was performed. On the right side was found an inflamed ovarian cyst universally adherent and partly covered in front by adherent intestine. During the separation of the adhesion the cyst wall was ruptured and pus escaped freely. Sixteen fluid ounces of very offensive pus were drawn off by trocar and cannula. The vermiform appendix was so firmly adherent to the cyst wall that it was torn across during the separation of the cyst. It was thickened and inflamed, the lining membrane being denuded of epithelium and covered with lymph. On the left side there was a smaller cyst also intimately adherent to surrounding structures, especially to the rectum, and containing offensive pus which escaped in considerable quantity during its separation. The Fallopian tubes were normal. The peritoneal cavity was thoroughly douched with hot boracic lotion and two glass drainage-tubes inserted and the wound sutured with silkworm-gut sutures. The operation lasted nearly two hours and the patient was returned to bed in a somewhat collapsed condition and an injection of brandy administered subcutaneously. The patient rallied well from the operation. The temperature rose the same night to 101°, but with that exception the maximum temperature during the convalescence, which was singularly rapid and uneventful, was 99·6°. One glass tube was removed the following morning and twenty-four hours later the other tube was replaced by an indiarubber tube, the discharge being purulent and offensive and containing small sloughs. Stitches were removed on the seventh day, the indiarubber tube on the fourteenth day, the discharge being very slight and non-offensive. She got up on the sixteenth day and left the ward well on April 13th. She presented herself a month later perfectly well.

CASE 3.—M. S——, aged forty-six, married, was admitted into the Adelaide ward on Feb. 27th, 1892, complaining of attacks of abdominal pain of five years' duration. The patient has been married twenty-five years and has never been pregnant. Catamenia began at the age of fourteen, twenty-eight days' type, the flow lasting from three to four days and accompanied with pain. Since 1887 the patient has suffered from paroxysmal attacks of pain in the lower part of the abdomen and left side. She also suffers from winter cough. The attacks of pain recur very frequently and last generally for two or three days and always start in the left iliac region. During the attack she says she feels very ill and sick and is obliged to take to her bed. The longest interval that she has had free from pain during the past five years is five weeks. Between the attacks she feels quite well. She was in the ward under treatment for pelvic inflammation, chiefly cellulitic, twelve months ago and greatly improved whilst under observation, but from the time of her discharge she had suffered from recurrent attacks of pelvic pain more frequently than ever.

On admission the patient, a stout, robust-looking woman, complained of pain in the lower part of the abdomen and the left side. The abdominal wall was soft, thick and flaccid, resonant all over; nothing abnormal detected on palpation. On vaginal examination the uterus was found retroverted and displaced to the right. The sound passed normal distance. Occupying the left posterior quarter of the pelvis was a hard, irregular mass, quite fixed and somewhat painful. There was no evidence of fluctuation. The temperature was normal and the urine contained a trace of albumen. The thoracic organs were normal. After seventeen days' complete rest in bed, there being then no alteration in the physical signs, abdominal section was performed. The left posterior quarter of the pelvis was found occupied by a tense, inflamed ovarian cyst roofed in by adherent intestine and omentum and partly covered in front by the thickened and inflamed left broad ligament. The uterus was displaced a little to the right of the median plane. Posteriorly, there were dense adhesions between the cyst and rectum. With considerable difficulty these adhesions were broken down and during the manipulations the cyst was ruptured and the purulent and highly offensive contents escaped into the abdomen. The collapsed cyst was then removed, a portion of its wall being left on the distal side of the ligature; the lining membrane of this was afterwards dissected away. The abdominal cavity was thoroughly douched with boracic lotion, a glass drainage-tube inserted and the wound sutured with silkworm-gut sutures. On subsequent examination the cyst showed signs of intense inflammation; the wall was dense, a quarter of an inch in thickness and glistening white on section; it measured three inches and a half by four inches. Internally it presented a red, ulcerated and shreddy surface. At one part of the wall there was considerable thickening, which on section had the appearance of ovarian tissue rendered dense by chronic inflammation. It proved on further examination to be inflamed connective tissue, with the slightly thickened but otherwise normal Fallopian tube embedded in its midst. The convalescence was satisfactory in every respect. The patient got up on the fourteenth day and left the ward a fortnight later in good health, the wound having been completely healed for a week. The patient had since menstruated normally. There have been two attacks of severe pain of short duration, but the general health continues to improve. Some induration can still be felt on the left side of the pelvis.

CASE 4.—M. S——, aged twenty-seven, married, was admitted into the Adelaide ward on Feb. 20th, 1892. She was married in 1880 at the age of sixteen and has had two children. She dates her illness from an abortion in 1885, after which she suffered from violent pain in the lower part of the abdomen with hæmorrhage and sickness for some months. During the past seven years the catamenial function, which had previously been regular and normal, has become very irregular, occurring at intervals varying from three to six weeks. She describes the flow as being like "dirty water." No dysmenorrhœa. She has not been pregnant since the abortion seven years ago. During these seven years she has been subject to attacks of abdominal pain. The last and most severe attack commenced a fortnight before admission. The pain was of a sharp burning character, situated chiefly in the right iliac region and to a less degree on the opposite side and radiating down the thighs. The patient had been in bed on account of the severity of the pain for one week before her admission.

On admission the abdominal wall was so rigid that a satisfactory examination could not be made. A few days later an examination was made under an anæsthetic; the uterus was found displaced to the left and freely movable. Occupying the right posterior quarter of the pelvis and depressing the right fornix was a tense, smooth, fluctuating swelling the size of a fist, separate from the uterus, which could be moved independently of it. The thoracic organs were normal. Urine contained a decided trace of albumen. Temperature 98° to 102°.

On March 18th abdominal section was performed. The uterus were found displaced to the left and the appendages on that side were normal; on the right side was found a globular tense cyst adherent to the surrounding parts and to the small intestine. The cyst burst during its separation from the adhesions and its purulent contents escaped partly into the abdomen and externally. The broad ligament was considerably thickened by cellulitis and the Fallopian tube was also thickened and inflamed. The tube, with the collapsed suppurating ovarian cyst, was removed and the abdominal cavity douched with boracic lotion at 110°. A glass drainage-tube was inserted and the wound sutured by silkworm-gut sutures. On the following morning the glass tube was replaced by an indiarubber tube, the discharge being considerable in quantity and of offensive odour. The stitches were removed on the seventh day. The tube was left out on April 11th, there being less discharge of a purulent non-offensive character. The patient got up two days later and left the ward on April 29th, well, in all respects, except for the presence of a small discharging sinus at the lower angle of the incision.

(To be concluded.)

BURTON-ON-TRENT INFIRMARY.

A CASE OF INTESTINAL OBSTRUCTION WITH PECULIAR FEATURES.

(Under the care of Mr. P. B. MASON.)

THIS case presents features which make it of considerable importance, for it would appear from Mr. Mason's account that there was a giving way in the wall of the bladder of a "healthy muscular man" without unusual strain and without direct injury. There does not appear to have been any obstruction, such as stricture or enlarged prostate, to the outflow of urine, which itself is said to have been normal in character. The most marked change described is that in the bladder wall, the reason for the excessive thinness of which could not be found, though it was apparently the predisposing cause of the rupture. For the notes of the case we are indebted to Mr. R. M. Littler, house surgeon.

W. W——, a healthy muscular man, twenty-nine years of age and unmarried, was admitted into this institution on May 20th last with the following history: Four days before admission, and when engaged in his ordinary avocation—furniture removing—he felt a sudden severe sickening pain in the abdomen which "doubled him up." Vomiting soon ensued and became bilious and later fæcal. He described it as tasting "like what comes the other way." There was no action of the bowels and no passage of flatus. He had had previous attacks of pain in the abdomen for some weeks, which were said to be inflammation of the bowels. When admitted there had been no passage of flatus or fæces since he was first taken ill and no vomiting for ten hours. The abdomen was rounded, tense and very tender. The pain specially referred to the region round the umbilicus, where there was some dulness. Pulse full and bounding, rate 80 to 90. Temperature 99·6°. The tongue was very dry and coated. He seemed very drowsy and had not the typical aspect of a patient suffering from peritonitis. He had passed urine at 4 A.M.; he also passed fourteen ounces at 3 P.M., quite clear. At 3.30 P.M. an incision about four inches long was made in the linea alba and the peritoneum exposed and opened. Distended small intestine presented itself and a little blood-stained fluid escaped. The coils of bowel were matted together with pieces of thick lymph. On further exploration with the finger, about half a pint of clear, fetid fluid came away, with a strong urinous odour. After washing the cavity out well an attempt was made to find the seat of constriction and the gut cleared for several feet in its congested and swollen portion, until clear, healthy bowel was found at each end. No definite constricting band was found. Rough fungating masses were felt in the left iliac region, feeling much like new growth, but it was not considered desirable to clear up this diagnosis by further exploration. The cavity was now well washed out, dried and stitched up. The patient bore the operation very well. He passed urine soon afterwards (eight ounces), clear and containing no albumen. Temperature at 5 P.M., 97·6°. He was very restless during the evening, but passed a quieter night. Nothing was given but ice and opium. The following day the temperature remained at 97·8°, but the pulse was weaker. Nutritive and brandy enemata were given and well retained. The patient did not complain of pain. Towards evening the temperature rose to 99·4° and he gradually got weaker, death taking place shortly before midnight. All the urine passed after the operation was clear and sweet, of normal colour and did not contain albumen.

Necropsy.—The small intestine was distended and evenly congested almost throughout. Coils were adherent to the anterior abdominal wall and to each other, but the adhesions were easily broken down. The inner surface of the pelvic peritoneum was covered throughout with a very thick layer of tough lymph. This also surrounded the appendices epiploicæ of the sigmoid flexure and probably gave rise to the sensation of new growth as felt at the operation. The bladder was covered thickly with lymph and collapsed and was isolated and removed with difficulty. On separating the layer of lymph before removal a small quantity of white purulent fluid appeared at its upper part and on examination after removal there was found a perforation in the bladder wall at its upper and back part about one inch by half an inch. The walls of this opening were, however, not at all congested or infiltrated and the surrounding bladder wall was very thin in places; only the mucous membrane was left. The kidneys and liver were very congested. The pelvis of the left kidney contained a small quantity of purulent matter. The ureters were quite intact and healthy.

Remarks by Mr. MASON.—Although the operation in this case was useless, it is right to put on record all cases of laparotomy for intestinal obstruction. The condition found was very remarkable. The fluid referred to was undoubtedly decomposed urine contained in a sac formed by lymph matting together the small intestines. The intestines themselves had no collapsed portion, but antiperistalsis was no doubt set up by the mechanical interference caused by the adhesions of the various coils. When the urinous fluid escaped a catheter was passed into the bladder and a small quantity of urine drawn off exactly similar in character to that passed immediately before the operation. Post-mortem the condition of the bladder was remarkable in the thinning of its posterior wall, the muscular coat being much thinned and even absent in places. The actual opening was probably made while removing the thick layer of lymph which bound it down. The only explanation of the case which I can suggest is that a small sacculus of the bladder had ruptured and the extravasated urine had been confined by old adhesions among the intestines due to former attacks of peritonitis. It is sometimes impossible to explain why fluid in the peritoneal cavity does not pass certain limits, as in a case of laparotomy for ruptured liver which I have already recorded in THE LANCET. The effused and unclotted blood did not pass over the middle line or extend above the level of the umbilicus, while no adhesions were found on opening the peritoneum, the decubitus since the accident having been uniformly dorsal.

Medical Societies.

OPHTHALMOLOGICAL SOCIETY.

Detachment of the Choroidea.—Recurrent Keratitis Superficialis Punctata.—Changes in the Retina due to the contact of a metallic chip.—Double Optic Neuritis after Influenza.

AN ordinary meeting of this Society was held on Thursday, June 9th, the President, Mr. Henry Power, F.R.C.S., in the chair.

Dr. STORY (Dublin) communicated the notes of a case of Detachment of the Choroidén, which were read by the Secretary. The patient was a female aged twenty-four, the sight of whose right eye had failed twelve months previously; the eye subsequently became, according to her account, so painful that she wished to have it removed. It proved, however, that her statements on this point were exaggerated. On admission to hospital the vision of the right eye was reduced to counting fingers at one metre. On ophthalmoscopic examination it was observed that there was a large detachment of the retina below, extending from the margin of the optic disc downwards. No rent was visible in the retina; all over the detached portion were small, brilliant, white spots and also large, circular and linear white patches of degeneration. The choroid coat was also detached over a corresponding area; its structure could be easily made out through the overlying retina, except where the above-mentioned patches obstructed the view. The tension of the eye was normal and there were no external signs of disease. Reference was made to a case published by the author in the Society's Transactions last year.

Dr. ADOLF BRONNER (Bradford) recorded a case of Recurrent Keratitis Superficialis Punctata in which the use of cocaine aggravated the symptoms. The patient, a stout man aged forty-eight, first suffered from an attack in the right eye in March, 1867, and the disorder returned every year, usually in March or April and nearly always in the same eye. During an attack which occurred in 1885 cocaine drops were used and the consequence was an increase in the severity and duration of the attack. In March, 1892, the case first came into Dr. Bronner's hands, the symptoms, which had existed for a week, subsiding in five days under the use of atropine. As a result, however, of exposure to a strong wind the left eye became affected. There was severe pain in the eye and forehead, intense photophobia, the lids were red and swollen and there was much chemosis. The pupil was dilated and over the lower half of the cornea there were ten to fifteen small, white, elevated spots. The appli-

cation of cocaine produced two or three minutes' ease and then the old pain returned with increased severity, all the symptoms and appearances becoming exaggerated. After the subsidence of the attack the cornea was perfectly clear and there were no signs of maculæ. Somewhat similar cases had been recorded by several German authors and one also by Mr. Marcus Gunn in the Society's Transactions for 1890.—Mr. MARCUS GUNN referred to two cases he had brought before the Society a couple of years ago, soon after the condition was described by Fuchs. Treated by atropine followed by yellow ointment they recovered rapidly.

Mr. PRIESTLEY SMITH read a description of Changes in the Retina, due to the long-continued lodgment of a metallic chip on its surface, in a lad aged seventeen, who was struck in the left eye by a fragment of bell metal. When first seen one month after the accident a small linear cicatrix was visible at the inner margin of the cornea; behind this a black point in the iris probably indicated an aperture made by the chip. The lens was clear; the fragment of metal could be seen lying on the retina some distance from the nasal side of the disc and on a rather higher level. Its position was shown by a scotoma in the perimeter chart. The eye was free from pain or other symptoms and vision was $\frac{6}{12}$. About four months later the foreign body shifted its position to a slight extent, its heavier end moving slightly downwards; one month later the whole chip dropped directly downwards through an angle of about forty-five degrees, according to the chart. Its former position was marked by a grey opaque patch on the retina, around which was a cloudy zone bordered by a faint pigmentary discolouration. Two scotomata were now shown in the chart, the second one indicating the new position of the chip. Thirteen months after the accident the position of the foreign body remained unchanged; its surface was less lustrous than at first. On the chief arteries and veins of the retina were numerous minute shining points, looking like specks of gold-leaf. The eye remained free from pain or injection and the lad was regularly at work. Mr. Priestley Smith thought it unlikely that the eye would remain permanently in its present quiet and useful condition. The foreign body, though aseptic in the ordinary sense, was acting surely though slowly as a chemical irritant. The question as to the possible danger of this chemical action to the fellow eye is one concerning which further information is desirable.—The PRESIDENT referred to the case of a man who was struck in the eye by a chip from a hammer. Traumatic cataract resulted and after twelve years the eye was removed on account of attacks of severe pain. Great difficulty was experienced in dividing the optic nerve, which ultimately had to be done very far back, and it was then found that a large fragment of steel lay embedded in it. The eye itself had become quite blind, but no effect was noticed in the opposite one.—Mr. SNELL mentioned the case of a boy with a fragment of metal in one eye, but with retention of good vision. He considered it a matter of importance in such cases to keep the patient at rest in the recumbent position for some time after the accident, so that the chip might become fixed to the retina by the lymph thrown out around it.—Mr. TWEEDY spoke of a man who had been under his care about ten years ago, in whom a small chip of steel had passed through the cornea, iris and lens and had become embedded in the retina. The fragment became involved in grey lymph and the eye remained perfectly free from pain or irritation. The lens did not become opaque, although a fine scar was visible in it. The patient was seen at intervals for a twelvemonth afterwards.—Mr. CRITCHETT mentioned a somewhat similar case which he had had under observation for three years. The eye during that time remained quiet and vision was but slightly impaired.—Mr. LANG alluded to a case published by the late Mr. James Adams, in Vol. I. of the Society's Transactions. This patient had a foreign body embedded in the retina near the yellow spot. It was covered by lymph, which also extended along the vessels. After eight years the eye was still free from irritation and vision was $\frac{6}{9}$.—Mr. PRIESTLEY SMITH, in replying, contrasted these cases with those described in text-books associated with sympathetic ophthalmia and pointed out the enormous importance to practical surgeons of the fact that an aseptic particle could remain in and destroy one eye without affecting the other.

Mr. SIMEON SNELL (Sheffield) read notes of two cases of Double Optic Neuritis after Influenza. Both patients were females, one aged nineteen, the other thirteen and a half. In each case sight failed a few weeks after recovery from an attack of influenza. In the elder girl the neuritis had nearly passed off. When she first came under observation the optic discs were atrophied and there was no perception of light. The younger patient was seen three weeks after the sight began to fail; the neuritis was then well marked. Vision was in right eye $\frac{1}{60}$, in left eye $\frac{1}{36}$. The neuritis had now to a great extent cleared up, but the discs were atrophic and there had been very little improvement in sight. Mr. Snell referred to the cases published by Macnamara and Lee.—Mr. MARCUS GUNN mentioned a case under his care at Moorfields. The patient, a man of forty-five, had retro-bulbar neuritis; the discs were hazy and the vessels small and in one eye vision was entirely abolished. Recovery began in a couple of weeks, under mercury and iodide of potassium, the vision in the blind eye improving to $\frac{6}{9}$.—Mr. CROSS (Clifton) referred to two cases he had seen in young women, in whom there was no evidence of intracranial disease and nothing which seemed to bear a causal relation to the neuritis except influenza. In these cases vision failed rapidly within a few days of the attack.—Mr. MCHARDY mentioned two cases he had seen and which he considered were probably due to influenza, no other cause being ascertainable. Both were females and in both there was temporary albuminuria. He had treated them by absolute rest in bed and the administration of iron; recovery had ensued.

The following living and card specimens were shown:—

Dr. D. J. WOOD: Drawing of a case of Detachment of Retina, with Unusual Dilation of Retinal Veins.

Mr. J. GRIFFITH: Instrument for Removal of Meibomian Cysts of the Lower Lid.

Dr. REDMOND: Tuberculous Disease of Iris.

Mr. JULER: (1) Congenital Cleft of Upper Lid; (2) Congenital Dermoid Cyst.

Dr. JAMES ANDERSON: Paralysis of Third Nerve in a case of Migraine.

Mr. MARCUS GUNN: Ophthalmoscopic Drawing, showing changes in the Retinal Vessels in Chronic Albuminuria.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

WEDNESDAY, JUNE 22ND.

Dr. JOSEPH BELL, President, in the chair.

Discussion on Pernicious Anæmia and its Treatment by Transfusion.—At a special meeting of this Society on Wednesday, June 22nd, Dr. BRAKENRIDGE read a paper on the Treatment of Pernicious Anæmia by the Transfusion of Human Blood. Before proceeding to discuss the influence of transfusion the facts known and the views entertained regarding the disease were glanced at. "The facts recognised on all hands were—(1) the progressive and remarkable reduction in the number of the red corpuscles and alterations in their form and size &c.; (2) evidence of greatly increased destruction of blood-corpuscles in the liver; (3) evidences of altered genesis of red corpuscles in the blood-forming organs such as the marrow usually consisting of an over-production in number and an under-production in quality; (4) the condition is not definitely attributable to any ascertainable cause. Theoretically, the condition might be accounted for by (1) a faulty genesis, whereby the corpuscles were imperfect, deformed, delicate, short-lived and easily destroyed by the action of the ordinary blood-destroying organs—as the liver—or by any poison; (2) an over-activity and perhaps a modified activity in the organs which normally destroy worn-out corpuscles; (3) the presence of both factors as a result of the same disturbing cause; (4) by the presence of some poison, ptomaine or other, introduced through the alimentary canal or otherwise. While the disease arises independently, it may become engrafted on a wide variety of pre-existing diseases, as chlorosis, tape-worm, &c. Although many mines of information in the field of the pathology of the disease have recently been opened up and worked, and although some links have been successfully forged, a chain of evidence which will bind all the facts into one consistent theory has not yet been put together. There can be no doubt that the view entertained *a priori* regarding the probable nature of the disease will materially influence the expectation of success from such a remedy as transfusion of human blood. If we believe the explanation of the anæmia is to be found in a vicious activity of the blood-destroying organs, and particularly if we hold that this is

caused and aided by a blood-destroying poison absorbed from the alimentary canal, we could expect very little and very temporary assistance from the introduction of so small an amount of blood as from two to six ounces. If we believe, on the other hand, the explanation to be that owing to some modification of their function the blood-forming glandular organs have lost their power to produce healthy, properly constituted and normally long-lived corpuscles, our expectation of a beneficial result should be very much more hopeful, for we should expect the transfused blood would improve the condition both of the blood-forming organs and of the faulty blood-corpuscles. It was in the hope inspired by the latter view—which I held in 1885—that I determined to give transfusion a fair trial in all my cases which failed to respond to other and approved methods of treatment and from the outset I believed it might be necessary to repeat the operation. All the cases which responded to the ordinary treatment were excluded and only those which resisted all other methods were transfused. There are five such cases and they in some measure support the following conclusions: Firstly, that in the transfusion of human blood we have a powerful means of arresting the progress of this grave disease; secondly, that the operation in skilful hands and with due precautions is perfectly safe; thirdly, that a number of precautions must be attended to in performing transfusion if inconvenience and even risk to the patient are to be avoided; fourthly, that the results throw a suggestive side-light on the probable nature of the disease, supporting, although not shutting one up to the view that the anæmia is probably mainly due to a failure in blood genesis. But the purpose of this paper is therapeutical rather than pathological." The cases were given in detail.—Case 1. A woman aged thirty-four presented all the characteristic features of pernicious anæmia and on admission on June 19th, 1885, the red corpuscles were 1,900,000 per cubic millimetre, and the hæmoglobin 35 per cent. She was carefully and specially dieted and treated with citrate of quinine and iron with arsenic. On June 28th the hæmoglobin had fallen to 30 per cent. and the red corpuscles to 1,600,000 per cubic millimetre. On July 3rd the iron and quinine were stopped, as they were not agreeing with the patient, but the arsenic was continued. On July 5th the hæmoglobin had further fallen to 24 per cent. and the red corpuscles to 1,160,000 per cubic millimetre. The temperature from the first ranged from 99° to 100·8°. The unanimous opinion of the physicians who saw the case was that it was one of pernicious anæmia and the question to him was, Could anything further be done? He held then, as he still holds, that the disease was mainly due to faulty genesis and a consequent tendency to the early death of the corpuscles in the blood-destroying organs, and he determined to try the effect of repeated transfusions in the hope that the normal function of the blood-forming organs might thereby be restored, or that such an impetus might be given to them as would bring them within the influence of the curative action of arsenic. After full and careful consideration and discussion of the matter with Dr. John Duncan transfusion was determined upon. The method employed was the indirect one; the blood was received into a solution of 1 in 20 phosphate of soda and maintained at blood heat. Six ounces of blood with two ounces of the phosphate of soda solution were injected very slowly, the pulse and respiration being carefully watched and the injection being suspended when any marked change in either was noted. Seven hours after the transfusion the patient felt better, the pulse was increased in volume and the blood-corpuscles had risen from 1,160,000 to 1,470,000 per cubic millimetre. There was a slight upward tendency in the number of corpuscles and the amount of hæmoglobin for three days and then there was a rapid fall until five days after the transfusion; they were nearly as low as before it. The second transfusion was done on July 12th and after it the corpuscles were 1,670,000 per cubic millimetre. The third transfusion was on July 26th, the corpuscles at that date having risen to 2,215,000 before the operation and to 2,820,000 after it. A fourth transfusion was unsatisfactory, the soda solution being used too strong and she declined to submit again to the operation. When she left the hospital the blood-corpuscles had trebled, being 3,000,000 per cubic millimetre and the hæmoglobin having risen to 60 per cent., her strength and colour having greatly improved. She returned to her home and died at the end of the year. From about four or five days after the first transfusion microcytes disappeared from the blood and were never again seen.—Case 2. A married woman. The red corpuscles on Oct. 11th, 1888, numbered 1,000,000 per cubic millimetre and the hæmoglobin was 20 per cent. During the first six days in hospital the corpuscles rose to 1,900,000 per cubic millimetre, but during the subsequent seven days they fell to 960,000. On Oct. 27th arsenic was commenced and in two days the corpuscles rose to 1,100,000, after which they gradually fell and reached 640,000. On Nov. 2nd, with the corpuscles at 640,000 per cubic millimetre, she was transfused, about five ounces of blood being used. After transfusion the corpuscles numbered 1,030,000 and from this time there was a steady rise. In seven days they had reached 2,080,000 and before she left hospital they had risen to 4,000,000 per cubic millimetre and the hæmoglobin to 75 per cent. of its normal; while the temperature, which had ranged from 99° to 101°, fell soon after transfusion to normal. She has remained quite well since that time. The particulars of the other three cases need not be given, for in the case of two of them the effect upon the blood was the same, although in both accidents of an avoidable nature occurred and in the other case transfusion was delayed too long. In all the cases transfusion not only increased the number of blood-corpuscles immediately, but the corpuscles continued to increase after each transfusion. It was necessary to take great care in all the steps of the proceeding and the operation had to be performed very slowly, and with full attention to all precautions the operation does not entail any danger to the patient.

Dr. AFFLECK then read the notes of a case of Pernicious Anæmia and showed the patient, in whose case he had, as a *dernier ressort*, used transfusion, although he had at the time little if any faith in the treatment. However, this case had entirely changed his views, for the patient had made an uninterrupted recovery after one transfusion, the corpuscles reaching their normal limit in six weeks.—Dr. JOHN DUNCAN referred to the surgical aspects of transfusion and said that after trying all methods he preferred the phosphate of soda method which had been suggested by Dr. Pavy and brought under his notice by Dr. Cotterill. He had used it extensively in his surgical operations with the happiest results. He dwelt upon the precautions necessary in the preparation and sterilising of the soda solution and explained how the accidents had happened in Dr. Brakenridge's cases. He thought that the rigor which occurred in some cases was not necessarily septic. He considered one-third of the soda solution the best proportion to use. Whatever constituent of the blood be useful in these cases of anæmia, it is permissible to believe—(1) that all of them when injected are still visible; (2) that, as with skin, bone and nerve, healthy blood tissue may have a determining influence in producing its like; (3) that the introduction of blood in cases of hæmorrhage is more valuable bulk for bulk than that of saline solution; and (4) that the cases prove that with little risk a beneficial effect in anæmia is produced by the operation.—Dr. JAMES asked whether the disease might not be due to a parasite of some kind and if the transfusion of blood serum might not be sufficient to counteract the poison.—Dr. W. RUSSELL referred to a paper he had published in 1889, in which he contended that there was a hyperplasia of blood-forming tissue which was to be regarded as a compensatory process; and that there was evidence of increased blood destruction in the liver, spleen and kidneys, but that for various reasons he did not consider the disease was a liver disease, although this view was at first sight attractive. Beyond the two facts of increased destruction and increase in blood-forming tissue he held, then, that we could not go. The question now was whether Dr. Brakenridge's remarkable results and work in other fields enabled them to move forward in their views and he thought they did. Dr. Brakenridge's and Dr. Affleck's cases clearly established the fact that transfusion had a curative effect, the corpuscular richness continuing to rise after the added corpuscles must have perished. On the other hand, within a few years serum therapeutics had arisen and was practically a new science. The curative action of blood serum under certain conditions was fully established, and knowing the results being obtained in pernicious anæmia by Dr. Brakenridge, it had been before his mind for some time that Dr. James's suggestion was in the right direction; and he believed the disease would be found to be an infective one, which the transfusion of blood counteracted, whether it did so by its antitoxic effect or by its influence upon phagocytic action; and if this view were correct, Dr. James's further suggestion that blood serum might be sufficient would probably also be correct. There still would remain the question whether the disease was due to an organism in the blood or, as Hunter believed, to the absorption of ptomaines from the intestinal tract and in view of the

cases brought before the Society he thought the former would probably be the correct view. The view held by Dr. Brakenridge did not appeal to him as it did to Dr. Brakenridge, while the infective view fitted all the facts better and was in accordance with recent work.—Dr. SMART, referring to clinical work which he was at present carrying on in the Royal Infirmary with reference to the pathology and treatment of anæmia, said that he had been particularly interested in one feature to which his attention had been specially drawn and which had a distinct reference to the present discussion. The urine in all his anæmic patients yielded a hæmatine reaction by means of a test suggested by Mac Munn in his book on the Clinical Chemistry of the Urine. These urines do not afford any ocular evidence of the presence of blood, many of them being pale and colourless. The characteristic roseate colour appears only after the addition of the test. The explanation given of this phenomenon by Mac Munn is that the colouring matter is derived from the destruction of the red corpuscles of the blood, brought about by the absorption from the bowel of decomposing fæcal matter, which would appear to break up and destroy them, causing anæmia. The results of his examinations of these urines would seem to corroborate this view. He also made examinations of urines in cases of chronic constipation and in one case of intestinal obstruction of nearly a month's duration, in all of which the colour reaction was very pronounced. If the view be correct that the red corpuscles undergo destruction in the circulation by a process of auto-blood-poisoning it can hardly be doubted that the blood-making organs also participate in the general sepsis. This is rendered highly probable in pernicious anæmia by the evident great depreciation in number of the red corpuscles, as also by their altered shapes and low standard of hæmoglobin—all indicative of the extreme disability of the formative blood organs to provide the number or quality of the corpuscles required for the needs of a healthy vitality. If we admit that in pernicious anæmia there exists this twofold disability, the one destructive and the other a constructive defect, we are at a better standpoint to appreciate the effects which followed the transfusions of healthy blood, as referred to by Dr. Brakenridge in his cases and as seen in Dr. Affleck's patient, who had only four ounces of blood injected. The remarkable effects which followed cannot on any theory be explained by reference to the quantity of blood used. It will be more accordant with our knowledge and experience to ascribe these effects to the energetic action of healthy blood, viewed in the circumstances, as a most potent therapeutical agent, stimulating to the utmost the devitalised organs and tissues and rousing them into renewed and sustained activity, and, most of all, by affording to the trophic and other centres concerned in blood making that kind of degree of stimulation which they most stand in need of. Dr. Brakenridge's work on transfusion is of great value in settling the question of its eligibility as a method of treatment. After the results obtained we must regard it as a remedy of high rank, whether as given primarily, or after the apparent failure of other remedies.—Dr. JAMES RITCHIE also referred to different forms of anæmia and in particular to a family in which several infants had died of what he believed to be pernicious anæmia, in one of whom the body was examined and there was evidence of blood destruction in the liver.—Dr. R. MUIR said that he also had found evidence of blood destruction in the liver and that he agreed with the views expressed by Drs. James and Russell.—Dr. COTTERILL spoke to the advantages of the phosphate of soda method of transfusion and Dr. NORMAN WALKER as to the importance of thorough sterilisation.—Dr. BRAKENRIDGE, in his reply, said that the purpose of his paper was mainly therapeutic and while he still held by his original view as to its pathology, he by no means felt bound by it.

AT the June quarterly meeting of the Court of Assistants of the Society of Apothecaries the following gentlemen were elected members of that Court: Dr. J. S. Stocker, Dr. T. Dickinson and Sir George Buchanan, F.R.S., late Medical Officer, H.M. Local Government Board. Dr. Stocker has been for some years past the chairman of the Society's Examiners and has greatly contributed in that capacity to the successful working of the Medical Act of 1886, so far as relates to the granting of a complete qualification by the Society. At the same Court Sir Hugh Reeve Beevor, Bart., King's College Hospital, was elected one of the Society's Examiners in the place of Dr. Stocker.

Reviews and Notices of Books.

The Principles and Practice of Medicine. Designed for the Use of Practitioners and Students of Medicine. By WILLIAM OSLER, M.D., F.R.C.P., Professor of Medicine in the Johns Hopkins University, Physician-in-Chief to the Johns Hopkins Hospital, Baltimore, formerly Professor of the Institutes of Medicine, McGill University, Montreal, &c. Edinburgh and London: Young J. Pentland. 1892.

THIS book is a distinct acquisition to medical literature. There are plenty of works on the principles and practice of physic, but there is always room for one more which bears the notes of personal experience, keen observation, boundless trouble, power of lucid and systematic statement, and interest in disease and its processes. Indications of these qualities are to be found in every part and article of this book, which we most heartily commend to students and practitioners of medicine. Though an American Professor, Dr. Osler is no stranger in England. He is well known to English pathologists and physicians by his Gulstonian Lectures, delivered in the Royal College of Physicians of London in 1885 during the presidency of Sir William Jenner on Malignant Endocarditis, and throughout this volume he does ample justice to the work of the British School of Medicine. The author arranges his subjects in the following order of sections:—Section 1 deals with Specific Infectious Diseases; Section 2, Constitutional Diseases; Section 3, Diseases of the Digestive System; Section 4, Diseases of the Respiratory System; Section 5, Diseases of the Circulatory System; Section 6, Diseases of the Blood and Ductless Glands; Section 7, Diseases of the Kidneys; Section 8, Diseases of the Nervous System; Section 9, Diseases of the Muscles; Section 10, the Intoxications, Sunstroke, Obesity; Section 11, Diseases due to Animal Parasites. There are various charts and illustrations interspersed throughout the book which add to its value. The extent to which the author contrives to give the latest investigations in pathology and to combine with this such an admirable account of his own large clinical observations is striking. The boldness, too, with which he accepts new conceptions of any given disease or places it under a new classification shows at once his acquaintance with the latest tendencies of medical science and the openness of his mind for the recognition of new truth. As an illustration of this we may refer to his article on Pneumonia, extending over twenty-six pages, in which every symptom, feature and relation of the disease is very graphically described. But the qualities of the author to which we have alluded as illustrated in this article appear in the opening definition of the disease:—"Pneumonia: an infectious disease characterised by inflammation of the lungs and constitutional disturbance of varying intensity. The fever terminates abruptly by crisis. Secondary infective processes are common. An organism, the *diplococcus pneumoniæ*, is invariably found in the diseased lung." Who can deny to the author of such a definition of pneumonia his opinions and the courage of them?

We are by no means convinced that all pneumonias are of an infective character and we think that Dr. Osler is a little hasty in including all of them under such a definition. We still adhere to the belief that in many, if not the majority of cases of the disease, exposure to cold and not infection is the main causative agency, judging by common evidence. But this does not affect the ability with which Dr. Osler adduces and enforces the evidence of its dependence in many, if not all, cases on a micro-organism, the diplococcus pneumoniæ. Be this as it may, his clinical description of the disease and the account he gives of the very interesting studies of the Drs. Klemperer of Leyden on the production of immunity from pneumonia in animals by the subcutaneous or intravenous injections of large quantities of the filtered bouillon cultures,

or by injection of the glycerine extract, and on the cure of it in infected animals by injection of the serum of an animal that had been rendered immune, give this chapter of the book a very complete character, embracing all that is suggestive in recent research and all that is to be learnt by close personal and clinical observation. Amongst the latter is his account of the complications met with in the disease and of the results ascertained in 100 necropsies. We notice too more than one thoughtful allusion to a point not made so clear in books or so well realised in practice as it should be—the "agonising" character of the pain of pneumonia.

Tuberculosis in all its forms is classed among the specific infectious diseases, and receives the attention it deserves as one of the most widespread of maladies that has recently received brilliant elucidation. Under this heading, too, the articles Pericarditis and Endocarditis in Section 5—including one on Malignant Endocarditis—and the articles on Chronic Valvular Disease are extremely valuable for their lucidity and the personal observations clinical and post mortem, which they include.

There is always one question which is vital in a work on the practice of medicine: What are the "lights" of the author in regard to therapeutical measures? It has to be admitted that the closest student of symptoms and of lesions is not always the author from whose book the practitioner in his difficulties will obtain the greatest help. Dr. Osler's belief in mere drugs is very qualified. He does not believe, for example, that the course of pneumonia can be modified by medicine. And we are disposed to think that he overestimates the necessary fatality of it. But still he is full of wise counsel as to the help that physicians can give; and where medicine is specific he has ample generosity to recognise it. Thus of quinine in ague he says: "In not a single instance among the several hundred cases of intermittent fever which I have had under observation during the past seven years did quinine fail to check the paroxysms"; and he supplements this broad statement with interesting details of dose and mode of administration. We congratulate our brethren of the American school on a work on the practice of medicine which deals with this great subject in a most fitting manner.

The Principles of Bacteriology: a Practical Manual for Students. By A. C. ABBOTT, M.D., First Assistant, Laboratory of Hygiene, University of Pennsylvania, Philadelphia. With Illustrations. London: H. K. Lewis. 1892.

IN the handy little volume before us are contained most of the directions essential for the carrying on of bacteriological investigation. After giving an introduction and general chapters on bacteria, their nutrition and their products, the author deals with the principles of sterilisation, disinfection and the apparatus required for the carrying out of these processes. The principles of Koch's plate method of isolation are described, after which descriptions of the various media on which micro-organisms may be grown and the different methods of employing these are given clearly and succinctly. Staining methods, inoculation, post-mortem examination and the like are taken up in turn; then a scheme of identification is appended; this, however, is far from complete and will be of comparatively little use to those who are not already acquainted with the methods of determining species, though we find that here the use of a most important medium (milk) is, very properly, strongly insisted upon—a medium which has hitherto been far too little recognised.

In the portion of the work devoted to the practical application of the methods of bacteriology we find a series of graduated lessons which should be of use to those who are studying bacteriology without a teacher. The whole book is evidently the work of an observer who has had considerable laboratory experience; there is little that is superfluous and much of what he has written is exceedingly good. It is, however, somewhat one-sided, as too much stress is laid on the German methods and too little on those in use in France. It is a capital text-book for students, though it is not equal to "Salomonsen's Bacteriological Technique" (a work which was also translated and first printed and published in America) either in originality or thoroughness. The printing is good, but several Americanisms met with in the text strike the eye of the English reader.

The Human Mind: a Text-book of Psychology. By JAMES SULLY, M.A., LL.D. London: Longmans, Green and Co. 1892.

THE author of this work has an established reputation as a psychologist, and his "Outlines of Psychology" must be familiar to a large circle of students. His present attempt is more ambitious and is characterised by thoroughness of detail and systematic analysis of mental phenomena. The book is one which shows how great an advance has been made in the study of this subject by the aid of modern physiology, and Dr. Sully has contrived to clearly expound the nexus between the higher intellectual attributes and those of sensorial activity. The first part of the work forms a series of introductory chapters treating of the nature and scope of psychology, its data and method and a discussion on the physical basis of mental life. In the last named there is an outline sketch of the nervous system, which is hardly adequate to the subject, and to a student who has no previous physiological training it may even prove misleading. The author indeed refers the reader to physiological text-books and says he only offers a *résumé* of the more important points having a psycho-physical significance. Later on, in speaking of "localisation," he points out that it is yet far from complete, but he gives no indication of the fact that there are whole areas of the cerebral cortex which are as yet unexplored, or rather the stimulation of which excites no response capable of being interpreted. No doubt in the future, as in the past, clinical and pathological observation may come to the aid of physiology in this matter; and the various psychoses may come to be associated with definite changes in cortical areas. In the gradual unfolding of his subject the author proceeds step by step in a manner which deserves the highest commendation. Thus the second part of his work is entitled "General View of Mind." It opens with an analysis of mind, in which the triple functions of intellect, feeling and will are first analysed and the relations of these mental processes to physiological functions discussed. He passes on in the next chapter—that on Primitive Psychical Elements—to deal with sensations in the first place, and then in turn with "elements of feeling," "active elements," and "primitive psycho-physical complications," which include the subject of Instinct. To us the first of these is most attractive, as it is based on the definite results of scientific research; and Dr. Sully shows how thoroughly he has grasped the physiology of sensation and the senses in the full exposition he gives of them. Of especial interest are the sections devoted to hearing, sight, and the muscular sense. The mental response to sensory stimulation or the mental images of sensations is a subject of some complexity, and it is skilfully treated under the head "Attention" in the chapter that follows next upon the discussion of Sensations. Analysing this still further, we are taken to the processes of mental differentiation or discrimination, then those of assimilation, and lastly of association, and the evolution of these factors of mental elaboration is shown to be generally in harmony with physiological development. The way is now cleared for the fuller exposition of each of the three great divisions of the mind, and to this exposition about two-thirds of the work are devoted. We do not propose to follow the author

in his analysis of intellect, feeling and volition. The whole range of psychological problems is here presented with a clearness and precision that seldom characterise their discussion. Nor is his exposition limited entirely by the normal, for towards the close he speaks, briefly it is true, of hypnotism and mental disturbances, showing how the transition from the healthy to the morbid takes place in the sphere of mind as imperceptibly as it does in physical conditions. We must be content with warmly commending this book to students and to members of our profession. They will find it of no small service in practical life, whilst the problems it raises and the explanations it affords give opportunity for unlimited reflection and thought upon matters that have been too often obscured by fanciful theories and too much neglected by those whose duty it is to promote the health of the mind as well as of the body.

A Treatise on the Parasites and Parasitic Diseases of the Domesticated Animals. By L. G. NEUMANN. Translated and edited by GEORGE FLEMING, C.B., LL.D., F.R.C.V.S. London: Baillière, Tindall and Cox. New York: William R. Jenkins. 1892.

HELMINTHOLOGY, in common with every department of science bearing on the practice of medicine, has of late years undergone enormous expansion; so much so that it is quite impossible for the medical man, with so many other things to attend to, to keep abreast with its progress. A competent knowledge even of the comparatively small department of the science which has immediate reference to man himself is possessed by very few and anything like a fair knowledge of comparative helminthology by fewer still. Yet medical science is daily becoming more and more the study of parasites and comparative pathology is daily being more and more drawn on to illuminate and advance human pathology. The appearance therefore of an important work of reference dealing with questions of comparative pathology is a matter of interest to the medical as well as to any other profession to which it may happen to be more especially addressed. Neumann's work is of this character and it is not too much to say that the distinguished author and, in a secondary degree, his translator have placed the medical profession under very heavy obligations.

Neumann arranges his subject, not on strictly zoological but rather on anatomical and pathological principles. This, we are sure, will be found a very great practical convenience. Such a plan enables the comparatively uninitiated observer to identify species very readily and with certainty and—guided by the copious bibliography, which is practically complete—to find out all that is known about any given parasite. Further, by bringing similar forms of helminthiasis in different species into close contrast a fuller and more philosophical grasp of any given helminthological problem is quickly obtained.

In carrying out this plan the author divides his subject into the Parasites of the Skin, the Parasites of the Digestive Apparatus, the Parasites of the Serous Membranes and so forth. So that a student, wishing to identify a parasite which he may have found or is submitted to him, has only to turn to the chapter on the particular part of the body from which the parasite came to learn all about it or to find out where to get fuller information. Thus, suppose we are concerned with a distom from the lungs of an ox, we turn to the chapter on the Parasites of the Respiratory Apparatus, Article II, where, under the heading Distomatosis, we find not only an acccount of the distoms of the ox's lungs, but an account of the distomatoses of the lungs of other domesticated animals, and in footnotes references to the entire literature of the subject. The chapter on the Acariases of the domesticated animals is particularly full and well done and the section on the dermatomycoses is particularly interesting to medical men.

Subjects having a special bearing on human pathology, such as coccidosis, trichinosis, hydatid disease, &c., are admirably handled, and to the human pathologist are of very special interest. In these and other chapters it will be found that many interesting and valuable side lights are thrown on questions of human pathology. We do not hesitate to say that this is a work which all pathologists ought to possess; and the practitioner, especially the country practitioner, who is so often looked on as encyclopædian in his knowledge of physical science, will not fail to add to his reputation if he has this book on his shelves and uses it.

Dr. Fleming, although himself well qualified to write a work on the parasitology of the domestic animals, has, with rare modesty, preferred the task of translator to that of author. It is unnecessary to say that he has performed his self-imposed task with complete success, besides contributing many original notes which will be found interpolated here and there throughout the text. Veterinary surgeons already owe much to Dr. Fleming; by the present work their debt, as well as ours, is still further increased.

Analytical Records.

AUSTRALIAN BRANDY FROM THE VICTORIAN VINEYARDS.

(HOWES & EDWARDS & SONS, 27, MINCING-LANE, E.C.)

OUR large colony, Australia, much to her credit, produces many good things and now, it would appear, she promises to vie with countries of established reputation in the production of not only excellent clarets, burgundies and ports, but also of sound, honest brandy. We have received a sample of a consignment of brandy recently shipped from Melbourne which our analysis and examination show to be of a fragrance, purity and quality second to none. The importance of this new departure can hardly be over-estimated when we are confronted with the fact that genuine grape brandy has, according to many official reports, become almost a thing of the past. In 1890 the vice-consul at Rochelle warned the British public that real cognac was then scarcely obtainable and what was sold as such was usually spurious. This statement of course caused much annoyance in the Charente district, where alone cognac is made, and sundry contradictions were published; but the consul, Mr. Warburton, in a more recent report, adheres to it and says that little as there was before of cognac brandy, there is less now. What is sold as cognac at a lower price than 25 francs per bottle is not cognac at all, but an industrial rather than an agricultural product, into the composition of which cognac, even if present, enters only to a very limited extent. Since the unfortunate ravages of the phylloxera there has been an immense falling-off in the shipments of brandy from the cognac district. It is a significant fact, however, that in the importation of so-called brandy there has been no falling off whatever and there is little doubt that the term "brandy" (branntwein) is now extended in its application so as to include spirit distilled from maize, rice and other cereals, as well as from potatoes, turnips and beetroots. The introduction of a genuine grape brandy, therefore, more particularly from our own dependencies, is a matter not merely of commercial importance, but one of especial interest to medical men, who have oftentimes to resort to it as a most valuable and powerful remedial agent. Just as it is essential that drugs (as, for example, salicylic acid) should be pure, so also, for medical use, it is essential that brandy should be pure. The fragrance, flavour and character of the Australian specimen submitted to us were excellent and the results of analysis testify further to the genuineness of the product. The alcoholic strength, as will be seen, is greatly

in excess of that of ordinary brandy. It was equal to 51·80 per cent. absolute alcohol by weight, or 59·65 per cent. by volume, or, in terms of proof spirit, 104·5. The residue amounted to 1·06 per cent. (almost exactly equal to real cognac) and on burning gave off a fragrant ethereal smell. A mere trace of ash remained. We confidently bring this new and interesting colonial product to the notice of the profession and it would be satisfactory to learn how in its therapeutic action it is found to differ from brandy now commonly met with.

MOUNT ROSA HONEY.

(AGENTS: S. DE PINTO & SON, 5, COMMERCIAL-STREET, LEITH.)

This is described as perfectly pure honey, gathered by bees from the highest flora in Europe, in ambulant apiaries placed on the slopes of the southern or Italian side of Mount Rosa. Our analysis does not disagree with the former part of this statement. We found the honey to be of a clear, brilliant straw colour and of excellent aroma and taste. Analysis showed it to contain about two-thirds its weight of glucose and other honey sugars, the rest of the solid constituents, amounting to 11 per cent., consisting of wax, pollen and gum.

GAUFRETTES FRANCAISES.

(H. A. SCHLESINGER, 31, JEWRY-STREET, E.C.)

The skill of the French biscuit baker is eminently displayed in these preparations. They consist of a thin, delicately crisp and nutritive biscuit, flavoured agreeably with vanilla. As very little effort is required to masticate them, they are admirably suited as accompaniments to the light meal of a convalescent or invalid.

CAFFYN'S CARNIS SUPPOSITORIES.

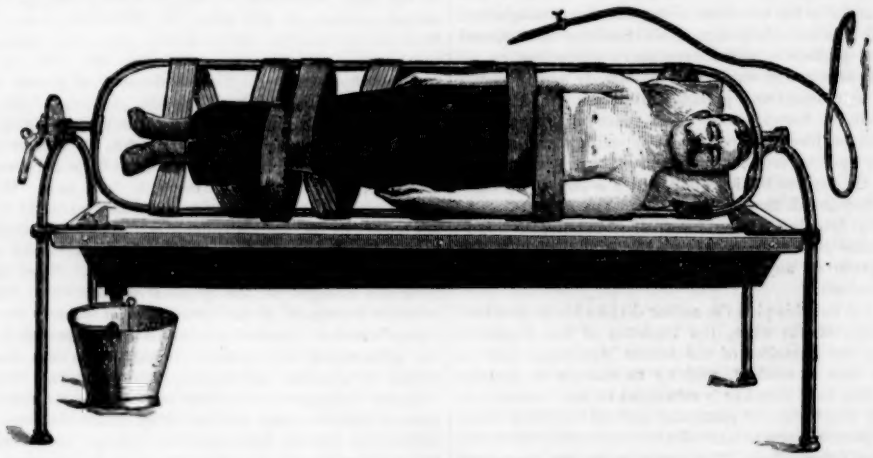
(LIQUOR CARNIS COMPANY, LIMITED, 50, HOLBORN VIADUCT.)

These preparations contain an equivalent of two drachms of liquor carnis and they appear to fulfil the requirements of a satisfactory suppository. They contain, for instance, according to our examination, the soluble albumen of freshly expressed meat juice and they melt readily in water at the normal temperature of the rectum in about five minutes, without the assistance of agitation or stirring. Inasmuch as unaltered albumen of meat juice is absorbed in the rectum to nearly the same extent as complete peptones, the value of these suppositories will be obvious to every practitioner. They are bullet-shaped and contain the nutrient material in a moist and adaptable colloid medium, which keeps well on account of the presence of a mild antiseptic.

New Inventions.

REVOLVING TABLE FOR FLUSHING OPERATIONS.

ON May 24th, 1892, I exhibited this table in the operating theatre of the Westminster Hospital and used it for the following cases:—1. Excision of the left mamma. 2. Excision of segment of bone at transverse tarsal joint. 3. Excision of right hip-joint. 4. Radical cure of inguinal hernia. The engraving gives a good general idea of the table. The top



revolving frame can be fixed at any angle, or easily detached and used as a stretcher for the conveyance of a patient from and to the ward. The capability of revolving allows the freest drainage by rendering any wound dependent and permits the fullest examination in varying posture. The framework is turned by a short lever and fixed by a steel pin at the foot of the table. The patient reclines upon broad canvas bands; these cross bands are quickly adjusted and can be replaced (if soiled) at the cost of one shilling. Thus all infected bands are burnt. Broad leathern straps belt the patient down and permit his body to be subverted. Underneath this framework is a large, long, japanned trough, which leads down to the foot of the table through a tap or plug into a bucket and prevents the operating floor becoming slippery from moisture or unpleasant from mess. A hose is shown in the engraving capable of supplying pure water or medicated solutions direct to the wound. The table stands firm. It has been manufactured by Mr. John Carter, 6A, New Cavendish-street, W., at a cost of ten guineas. The workmanship is good and much care has been bestowed on its execution. The table has been presented to the hospital by a lady (per J. A. Tapson, Esq.). It is thought that this description of table goes some way towards meeting a general surgical want—not only for major operations and interference with the body cavities, but also for the ordinary dressings in surgery, where cleanliness and the very free use of good water is necessary.

RICHARD DAVY, F.R.C.S. Eng.,
Welbeck-street, W. Surgeon to the Westminster Hospital.

TEAPOTS.

WE have had submitted to us specimens of two teapots, each of which supplies, in its own way, a very important want. "Tea," says Sir Andrew Clark, "is a blessed beverage," and we feel sure that many will re-echo the sentiment, but it is one that only applies under certain conditions of its preparation. Some teas are speedily converted by imperfect methods of preparing them into the representation of all that is "physiologically wicked." For instance, tea is a very common cause of palpitation, which is probably due to the theine or caffeine in its composition which increases the power of the cardiac muscular fibre and stimulates it to increased contraction. Indigestion and other

FIG. 1.

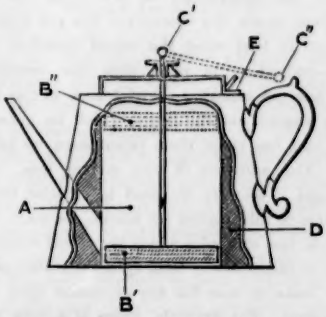
troubles are only too common among inveterate and unwise tea-drinkers. On the other hand, everyone who knows the refreshing and invigorating power of tea, when taken and prepared judiciously, will admit the importance of any invention or modification which tends to render it non-injurious. The fault in many instances is not so much with tea *per se* as with our method of making the infusion in this country, the long-continued "drawing" to which it is generally subjected lessening the aroma and extracting so much of the soluble matters, that the resulting fluid is less aromatic and delicate in flavour and at the same

FIG. 2.

time a too great quantity of tannin is dissolved out, more especially from the fashionable Indian teas. The first teapot is sent to us by the patentee, Mr. J. A. Chandler, who has had upwards of twenty-five years' experience in the Mincing-lane tea trade. It is a combined teapot, infuser and strainer. The modification consists in a little cage attached to a chain, which pierces a hole in the lid of the teapot and by which the cage is raised or lowered in a manner very similar to the "centre board" of a yacht; when this has been charged with the tea it is allowed to be suspended in the hot water and pulled up by means of the chain when the infusion is made. The idea was recommended by Sir Andrew Clark many years ago. By its use the tea cannot be stewed or over-drawn, for, when the time necessary to its infusion has expired, the cage can be pulled up out of the water, and the tea will then remain uninjured. By this teapot the minimum quantity of tannin is obtained and very perfect infusion of the tea is ensured. The urns are fitted with an extra lining or cosy to prevent the outward radiation of heat. The patent includes a complete infusing apparatus, which can be applied to any ordinary teapot. The teapot is made of the best quality of material and when it can be had in porcelain will certainly be a valuable and useful article for the tea table, and a few modifications, which will no doubt be made, may greatly add to the importance of this new application of an old and well-known principle. Information can be obtained at the offices of the patentee, 21, Bedford-street, Strand.

The second teapot, which we illustrate, is made by Mr. G. Wilson of Paul-street, London, E.C., and it combines, as will be seen by the illustration, some very important principles, although the application of them is still in a crude form. Hitherto our appliances for making tea have been more elegant than scientific, but the teapot figured here is on a sounder basis. The diagrammatic sketch sufficiently explains the principle.

FIG. 3.



A, Teapot proper; B', tray for tealeaves in position for infusing; B'', tray for tealeaves drawn clear of the water; C', rod for drawing up tray; C'', rod for drawing up tray, with tray drawn up; D, hot-water chamber surrounding teapot; E, funnel-opening for filling D.

Boiling water is first poured into the outer chamber D, to heat the teapot and then the tea is made in the ordinary way, but after standing for from three to four minutes the tray is drawn up into the top of the teapot by means of the jointed rod C, and the infusion ceases, the result being a perfectly, clear, palatable and wholesome beverage which will remain hot for a considerable time and yet be as delicate in flavour and as harmless as when first infused. This, like the other teapot, would be improved by being manufactured in porcelain.

BEACH ROCKS CONVALESCENT HOME, SANDGATE.—The new convalescent home at Sandgate was formally opened on Saturday, June 25th, by Sir Edward Watkin and Lady Ingram Watkin in the presence of a large assembly of the inhabitants of the town and of visitors from other districts interested in the work of the Samaritan Society. It is pleasantly situated close to the sea, which it faces and which is approached by broad flights of steps from its terraces. Being thus open to the invigorating and health-giving sea-breezes, it is sheltered on the north and east by the well-wooded heights of Shorncliffe. The building and the furniture have cost in all about £20,000. It has been the aim of the designers to get as much light and air within the building as possible, which must tend to have a most salutary effect on many of the patients who unhappily have been accustomed to different surroundings. It is already occupied by 130 inmates.

THE LANCET.

LONDON: SATURDAY, JULY 2, 1892.

THE report of the House of Lords' Committee upon Metropolitan Hospitals will serve to form a somewhat diffuse discussion and to give point to a controversy which up to the present time has ranged in a more or less confused way over an immense field of debate. This feature of the position is strikingly illustrated in the *précis* of evidence which the report contains, but which, owing to pressure on our space, we are unable to reproduce to-day. The digest brings into a manageable compass the substance of the very voluminous evidence laid before the Committee and, by means of the Committee's earlier reports, before the public. But it thereby serves to make manifest the great number and diversity of the points to which that evidence has been directed and to give an impression even stronger than that produced by the unabridged evidence of the multiplicity of the issues raised. Upon many of these issues the Committee has not adjudicated in any way and in that sense the report therefore is very incomplete—indeed it is plain that the draughtsman of the report has not aimed at completeness in this sense. He has rather singled out the issues which he considers most important and has given them prominence by passing over the rest. The adoption of this course was, we think, judicious and if we were disposed to criticise the report at all in relation to this matter we should be more inclined to observe upon the examples which the report exhibits of side issues treated inadequately than upon the instances in which the reader looks in vain for any utterance upon these subordinate points. For example, there is a very infelicitous paragraph (numbered 571) in which, passing from the three "Endowed Hospitals" to the remaining eight general hospitals with schools the Committee say of these latter that they "depend entirely for their support upon voluntary contributions, excepting in a few cases where they possess some small endowment." This exceedingly inexact reference to the financial condition of the "unendowed" general hospitals is the more remarkable because the earlier part of the report itself contains detailed references to the same matter and states, for example, that the London Hospital has invested property to the amount of £283,000 and St. George's Hospital to the amount of £441,000. The mistake is evidently due to haste and is by no means the only sign of haste in the preparation of the report. It is well that this should be pointed out, for strongly as in the main we agree in the conclusions at which the Committee has arrived, we cannot but perceive that on many points its utterances will form a starting-point rather than an end of discussion.

The main result of the Lords' deliberations is embodied in the suggestions which they have put forward with regard to the formation of a Board of Supervision. The constitution which they approve is that of an elective body consisting of forty-nine members, to which the various hospitals and other bodies concerned will send representatives. It is proposed that for this purpose the hospitals shall be grouped and that to a group of small hospitals shall be conceded a representation equal to that enjoyed by one large institution. The other constituent bodies are to be the dispensaries—in two groups,—the various medical and surgical professional authorities of the metropolis, the London County Council and the Sunday and Saturday Funds. The duties of the Board so constituted are roughly sketched and amount to a system of watching and recording the operations of the various institutions committed to its jurisdiction. It is to receive annual reports and statements of accounts, to examine and report upon proposals for new hospitals, to maintain a system of visitation and to "turn its attention to the possibility of so organising medical charities as to secure their coöperation with one another and the coöperation of medical charity with general charity." This is a result of great practical importance and equal promise of useful consequence. We trust that in some way it will shortly be realised. How this is to be done does not at all appear from the report and this singular omission is another of those signs of haste in its preparation to which we have previously referred. Probably, however—indeed, undoubtedly,—the idea in the mind of the Committee was that the Board would be created by an Act of Parliament and endowed thereby with all necessary authority for the exercise of its functions. It seems, however, probable that this part of the scheme has not been fully worked out and we think that probably some difficulty would be found in persuading the Legislature to move exactly on the lines sketched out by the Committee. The consultative authority and duty of observation with which it is proposed to invest the new Board are not unlike those which are confided to the Lunacy Commissioners or the Prison Commissioners in other spheres, and no doubt precedents could be found in other directions equally in point. Still the composition, so far as we know, of all these commissions or boards is very different from that suggested for the proposed hospital board. A body so popular in organisation, so large numerically and representative, so strong, could hardly be expected to confine itself in practice to the judicial function of criticism and the routine of receiving and compiling reports. Our feeling is that mischief would be sure to come of putting so powerful a machine to work upon so delicate a task. We think that in circumscribing the task the Lords' Committee has acted with great wisdom, but that for undertaking that task a much more suitable agent could be found and that two excellent schemes would be prejudiced by the failure of one ill-devised organisation, if a task requiring minute and painstaking attention to details and involving little or no exercise of control were confided to the hands of a large and popular assembly ill-fitted to carry on a laborious routine, but eminently adapted to exercise a large authority.

NEXT to the poor, for whom the hospitals are primarily intended, there is no body of persons for whom the recommendations of the Select Committee of the House of Lords on the subject of Metropolitan Hospitals have more immediate interest than the members of the medical profession. They are interested in them in two or three ways—in the efficiency and readiness with which they meet the cases of urgent medical need which in the first instance generally come under the notice of the general practitioner; in such a careful use of hospitals and their accommodation that they shall not pauperise those receiving their help, or enter

unduly and unfairly into competition with the hardworking general practitioner on whose ubiquitous presence by night and day the public, and especially the poor, depend for help in time of trouble. Further, the medical profession cannot fail to regard hospitals with interest as the chief centres of medical education from which medical light and learning emanate. We have dealt above with the report as far as it deals with what we may call the administrative and business aspects of hospital management. We propose now to consider rather two or three questions of special interest from the point of view of the medical profession.

The judgment of the Committee is, on the whole, highly favourable to hospitals and their management. The outspokenness and independence of the Committee are noticeable throughout, but chiefly in their somewhat severe criticism of the endowed hospitals and particularly in their allusions to the sanitary defects of St. Bartholomew's Hospital. They object to the old theory which allows the treasurer of such hospitals to do pretty much as he likes and strongly urge that they, as other institutions, should be governed by a board of managers and subcommittees. For the large general hospitals and particularly the London Hospital they have scarcely any words but those of praise. The charges against the London Hospital they regard as not substantiated by evidence. The difficulties that did arise they consider would have been avoided if the governing board had kept authority in its own hands and not delegated so much to salaried officers.

One of the subjects on which the medical profession feels strongly is the evil of the multiplication of Special Hospitals. The members of the Committee do not see their way clear to condemn all specialisation. They would except children's hospitals, ophthalmic hospitals and the Lock Hospital—on the latter subject, by the way, they express an important opinion that the authorities should have the power of detaining lock patients as "infected" patients who might wish, as such patients are apt to do while infected, to carry on their vile trade. But the Committee fully points out the proved evil of small special hospitals and deprecates their further multiplication. The deliverance of the Committee on the subject of Out-Patients will be regarded by many as the least satisfactory part of the Report. The Committee has patiently heard all its opponents have to say as to the abuse of this department and all its advocates have to say in its defence as a means of education, as a refuge to the poor "night and day." And it has on the whole adopted the views of its defenders and found it indispensable to medical education. The Committee goes further and expresses the opinion that the charities are not abused to any serious or appreciable extent and that the patients are not treated carelessly or by students instead of thoroughly qualified persons. This deliverance will not close the mouth of objectors to the present scale of the out-patient department. But it clears the ground for further discussion, especially in one way. It shows that the out-patient department is not only tolerated but cultivated, not so much for the sake of the poor as for purposes of medical education. Hospital practice in the serious sense of it is felt not to be sufficient to teach general practice and so all and sundry are welcome to the out-patient department for the sake of the pupils that have to be taught. With this great motive for its cultivation much vigilance is not to be expected and there seems no hope of much limit being set to its growth. We cannot admit the force of the excuse. There are other ways of teaching students familiarity with common diseases under conditions that will not demoralise patients or injure general practitioners. As the Committee itself points out, there are the Poor-law infirmaries in which it would scarcely be too much to say that certain great groups of disease have recently been discovered. There is besides the great field of general practice itself, which under proper conditions can be largely utilised for purposes of medical instruction. We deny that anything like the present scale of the out-patient department is necessary for the purposes of the poor and we heartily agree with the Committee in throwing on the authorities of each hospital the responsibility for arrangements that shall prevent abuse. The out-patient is to some extent an unsatisfactory item in hospital charity and withal a mysterious one. He cannot be traced. The cost of him to the hospital cannot be ascertained. The members of the Committee, however, do not think the mystery impenetrable and we hope it will be still further elucidated.

The Committee makes a wise observation on the effect of the Metropolitan Poor-law Act of 1867 in altering the relation of the poor to the hospitals and everything relating to medical charity. They think further infirmary accommodation is necessary so as to enable the infirmaries to take the sick who are nursed almost entirely by pauper nurses out of the workhouse. They do not express any recommendation in favour of enlarging the staff of the workhouse infirmaries, or of introducing an outside or consultative element.

The Committee has found time to express an opinion in favour of the removal of all territorial restrictions of qualifications for appointments to London hospitals, singling out St. Mary's Hospital as the only hospital without such restrictions. It thinks that practitioners who have "graduated" elsewhere should not be excluded. We presume that "graduation" is not here used in its limited sense. With the general principle we agree. We must now for the present leave this Report which is characterised by much good taste and judgment, though in some respects it appears to be, as we have already intimated, somewhat hastily drawn up. It will not diminish the responsibility of hospital authorities, but it will weaken the excuses of all those who can afford to help hospitals and do not.

THE British sphere of influence is rapidly extending in Africa; in fact, it may be said that from the four cardinal points of the compass British influence, missionary enterprise and commercial undertakings are penetrating towards the centre of the continent. In looking back, let us say, to the time of the Niger expedition, it becomes clear that, apart from physiographical difficulties, it has been fever which prevented the civilisation of Africa long ago. It is true that the configuration of the continent—its lack of bays and estuaries and its want of rivers navigable from the sea—has prevented that rapid exploration and development which might have been expected. During the last twenty years, however, rapid strides have been made, and we are at present perfectly familiar with the main geographical features of the whole of the continent, although of course there is much field still left for detailed exploration. This

knowledge has, however, only been attained through great loss of life or permanent injury to health, primarily, we believe, due to fever. Turning to missionary enterprise in Africa, we note that both on the east coast and on the west, as in the centre, the heroic labours of the missionaries are "cabined, cribbed, confined" by the same cause; and now that commerce is making rapid strides in the large areas of the African continent which have during the past few years come under the sphere of British influence, we find that it is fever which proves the great barrier to the extension of commercial enterprise. What of the future? If our commerce, if our missionary enterprise, if our efforts at introducing the blessings of civilisation into the country are to be successful, it will apparently, as in other parts of the world, only be attained after the sacrifice of innumerable lives and at a great expenditure of money.

We have recently received reports from various quarters throwing grave doubts on the received etiology and on the nature of African fever. Is the disease due to malaria? If so, is the malaria in Africa produced by the same, or approximately the same, causes by which it is produced elsewhere? This naturally involves the whole subject of the nature, cause, prophylaxis, and cure of malaria. Recent bacteriological research seems certainly to point to a micro-organism, a polymorphic hæmatozoon, being concerned in the production of malaria in most parts of the world. At any rate, the researches of LAVERAN in France, of MARCHIAFAVA, CELLI, and CAMILLO GOLGI in Italy, of VANDYKE CARTER and HEHIR in INDIA, and COUNCILMAN and OSLER in America, all result in a common agreement that such is the case, and the examination of the blood of a few patients who have returned from various parts of Africa also points to the same hæmatozoon being at work in that continent. On the other hand, it will not do to ignore the fact that there are observers, and observers of no mean order, who in India, in America, and in Africa deny even that malaria exists as a disease *sui generis*, and who maintain that the phenomenon witnessed in, for instance, intermittent fever are due to either errors of personal hygiene or to the action of "chill." It is certainly difficult to reconcile these last opinions with the widespread ravages of malaria, which, as Dr. HEHIR holds, possess the unenviable position of killing more human beings than any other malady enumerated in the nomenclature of disease.

Having regard to the vital importance of the issue involved in this question, we have decided to institute a commission of inquiry into the subject of the so-called malarial fever in tropical Africa, and an appeal is issued to all medical men who are, or have been, at work in tropical Africa to give their testimony. This testimony must be strictly limited to African experience of fever, in order to elucidate how far the malarial fevers of Africa are either distinct or identical with such fevers in India and other parts of the globe. To make the inquiry more complete, a Special Commissioner is engaged in personal investigations on the subject in West Africa. The schedule of inquiry which has been issued has been compiled with great care and not only calls the observer's attention to the various important points in connexion with the inquiry, but is also arranged in such a manner as to entail upon the investigator the minimum of trouble. It is hoped that all who can aid in this inquiry will give their hearty coöperation, so that the vast amount of isolated information which must exist may be examined and tabulated. It is intended in due course to publish the results of the inquiry as a report of THE LANCET Special Commission.

It would be needless repetition to refer here to the numerous points to which attention is drawn in the schedule, but it may be useful to allude in somewhat broad outlines to a few matters with regard to malaria, and especially to what we know of its character in tropical Africa. Most persons will probably allow that malaria is more or less a preventable disease, for we have only to bear in mind the change which has taken place in its production and incidence in the United Kingdom since the days of CROMWELL and CHARLES II. Drainage and cultivation have done their work, and the scourge has been almost completely banished from districts which were once its endemic home. Again, the presence of towns checks the disease—in the case of Chicago, for example, the rapid growth of which has banished malaria from the district, although it would appear that its place has been taken by enteric fever, or perhaps, as the Americans would say, by a hybrid disease, typho-malarial by name. It must not, however, be forgotten that some methods of cultivation may produce malaria where it has previously been non-existent, or may give an impulse to its production—e.g., the introduction of the cultivation of the sugar cane into the Mauritius, or, at any rate, the extension of its cultivation in that country, and perhaps, as suggested by DAVIDSON, the introduction of the coffee-leaf disease into the colony in cases of plants from Ceylon, produced an outbreak of malarial fever in a district where up till 1866 paroxysmal fevers had been practically unknown. To illustrate the second point we may refer to the impulse which is given to the production of malaria in the new irrigation districts in India.

To return, however, to tropical Africa and to the conditions which there obtain. The first point to notice is that, although Europeans suffer most severely from fever in tropical Africa, the natives are not exempt from the disease, and it is found that although when remaining in their own districts they are comparatively free from the scourge, yet when they are removed from their homes, either during war or when acting as carriers in exploring parties, they suffer considerably from fever and, indeed, show less power of throwing it off than the whites. It is also well worthy in this connexion to note that Africans, returning, say, from America to Africa, suffer as severely from fever as Europeans. In tropical Africa those conditions of climatology and of the configuration of the ground and altitude, as well as cultivation, which influence the incidence and epidemic spread of malaria in other parts of the world, are apparently identical. It is only perhaps when we come to consider the manifestations of the disease itself that we may be led through the accounts given by travellers and other observers to any dubiety at all as to the identity of African fevers with fevers in other regions. Upon the surface it seems perfectly clear that African fevers may be classified somewhat as follows—viz., an ordinary intermittent fever which, probably after receiving the malarial poison into the system, may be induced by either a wetting or a chill after severe perspiration, as was referred to by Dr. PARKE in THE LANCET of May 28th; again, a fever of a remittent type, lasting from

ten to fourteen days, most usually experienced on the coast and forming the "acclimatisation fever" of older observers; once more, a remittent fever, complicated by bilious symptoms of extreme gravity, the well-known bilious remittent of the west coast of Africa; but this is a type of fever which is met with under certain circumstances all over tropical Africa and is almost invariably due to an individual equation. We then come to the severe fever known more especially on the west coast of Africa, but it likewise occurs widely distributed—namely, the Blackwater fever, which, according to EASMON (and he is probably correct), is simply an ordinary fever complicated by hæmorrhage from the kidney and deserving of no distinctive name whatever. In cachectic patients, or in such as have been exhausted by prolonged marches and exposure, there is another form of fever which tends to the continuous type. As a rule, it seems that the well-marked quotidian, tertian and quartan fevers are not so distinctively met with in tropical Africa as elsewhere, but it is a question if this is really the case and if it is not a fact that closer observation by trained medical men would show that even in the supposed continuous fever, to which reference has just been made, one or other of the well-known types of ague may not, owing to reduplication or anticipating paroxysms, really represent one or other of the classical forms of the disease. From what has been said it will be seen that with the information we have at present at hand there is really insufficient evidence to justify the statement that African fever has an identity of its own.

It is to be hoped that THE LANCET Special Commission will throw considerable light both upon the personal care and hygiene which would serve in a given case to ward off fever, and upon prophylactic measures generally with regard to it. That personal care may do a great deal in preventing fever none will deny, and with regard to prophylaxis it is of extreme importance that more light should be obtained from Africa itself. We know how much drainage has done in other parts of the world, as also the choice of salubrious situations on which to erect stations. But it is too much to expect that general laws will ever be able to settle this matter, so much depends upon local conditions. It is said, and rightly, that the administration of quinine will act as a prophylactic measure, and a great deal of valuable information has been gathered on the subject in all parts of the world, but it is a question of grave importance whether it is advisable for men to habituate themselves to the use of this drug. In the experience of many it is found that, should a person who has been taking prophylactic doses of quinine for a considerable period be unfortunately struck down by fever, far larger doses are required to cut it short; and even in many cases the drug may be said to fail. It is also a matter worthy of grave consideration whether the large and continuous administration of quinine does not injuriously affect the nervous system and therefore it would appear that further research is necessary before we can definitely understand the advantages or disadvantages of the prolonged administration of a drug which is nevertheless admitted to be one of the most serviceable with which we are acquainted.

THE frequency and variety of the operations performed through wounds made in the abdominal wall justify a special consideration of the best means of obtaining a proper healing of these wounds, especially as the firmness of an abdominal cicatrix plays so important a part in the result of an operation. In the case of an ordinary laparotomy wound the surgeon endeavours to obtain two special features in the cicatrix—in the first place, firmness, and next, the absence of adhesion between it and the subjacent viscus or viscera. To obtain the latter he must unite the cut peritoneum as closely and accurately as possible and so get a perfect linear scar in the serous membrane. To ensure a firm, unyielding scar it is important to unite all the divided tissues and not merely the cut peritoneum and skin. Then when primary union has occurred the recent cicatrix must be supported from without by strapping, a bandage or a belt, until it has become strong enough to resist the abdominal pressure. Two main forms of suture are employed: generally the suture is threaded on a needle at each end and each needle is made to transfix the abdominal wall from the serous coat through all the structures to the skin. The other method is by means of a series of buried sutures. The first is a fine continuous suture of the serous membrane, then a second is placed in the cut or separated muscle, and finally the skin is sutured. At the end of a long operation such a suture is tedious and it is absolutely necessary to have aseptic sutures. There is no doubt the suture obtained by the system of buried sutures is very excellent and this should impress surgeons with the importance of stitching the abdominal wound in such an even, regular manner that the entire cut surfaces are brought into exact apposition until their union is secured.

Another group of cases is made up of those in which a permanent opening into a mucous canal is obtained—such, for example, as in gastrostomy and colotomy. Here the main purpose is to obtain a firm, unyielding union between the given viscus and the abdominal wall. A common plan to follow is to unite the cut edge of the parietal peritoneum to the skin and in that way close the wound of the muscle &c. and then to unite the serous and muscular coat of the stomach or intestine to the peritoneum and skin only. The advantage of this plan is that it brings into close apposition two serous surfaces which very quickly unite and shut off the serous sac. The drawback to it is twofold: In the first place, it takes time and in the second place the union of the parietal peritoneum and skin is liable to yield and allow the viscus to slip back. A far simpler and better plan is to draw out the stomach or bowel and unite it to the skin only. This plan is extremely simple and expeditious and, best of all, it makes an exceedingly strong union of the viscus to the abdominal wall. The serous coat of the stomach or bowel unites very quickly and securely to the cut muscle and fascia and no fear need be entertained of evil effects from blood or other exudation from the wound finding its way into the peritoneal cavity or of slipping back of the bowel.

In a third group are the cases in which a hollow viscus, an abscess or a cyst, is opened and drained. In the case of a hollow viscus—e.g., the gall-bladder after cholecystotomy or the urinary bladder after supra-pubic lithotomy or exploration—closure of the wound in the viscus and abdominal wall is desired without diminution of the size of the viscus. This is most rapidly and surely obtained if the bladder is united to the deepest layers of the abdomina

wall only and not to the skin. The gall-bladder should be stitched to the peritoneum and transversalis fascia only, the urinary bladder to the transversalis fascia and deepest part of the rectus muscle only. The effect of this is to have a granulating wound superficial to the mucous membrane, between it and the skin, and this tends to fill up and consolidate very quickly, closing securely over the bladder wound; there is also the minimum of displacement of viscera. Where the older plan is pursued of uniting mucous membrane to skin there is greater displacement and the opposed mucous surfaces of the bladder have no tendency to unite and so the fistula is longer in closing. Where, however, it is an abscess wall or cyst that has to be drained, the object aimed at is quite different. The healing process must start from the bottom and extend upwards; it must close the cavity and not merely the wound into it. The abdominal incision must be the very last part to consolidate and it may have to remain open for many months. It is an advantage to have any bar to its premature closure and therefore in these cases it is best to unite the cyst or abscess wall to the skin—alone or in conjunction with the peritoneum—preferably to the skin only.

Too much attention cannot be paid to abdominal scars to prevent their subsequent yielding. When extreme, such a yielding and the consequent hernia are great sources of suffering and even of danger to the patient and the means of relieving the distress are very imperfect and unsatisfactory. It is a case where prevention is vastly better than so-called cure. Such are some of the main principles that must guide the surgeon in the suturing of abdominal wounds and their importance is such that we may repeat them in the form of aphorisms. The closure of a simple abdominal wound should be as perfect as possible; the serous surfaces should be accurately united and all the cut tissues between peritoneum and skin should be brought into apposition with precision and uniformity. The means by which this is to be done are of far less importance than the attainment of the end in view. Where a viscus has to be permanently fixed to a wound in the abdominal wall it should be sutured to the skin only. Where a hollow viscus is drained without permanent obliteration of its cavity, its wall should be sutured to the deepest part of the abdominal incision only. Where a pathological cavity is drained with the object of securing its obliteration its wall should be sutured to the skin.

THE subject of Extra-uterine Pregnancy or, as better named by Dr. ROBERT BARNES, "ectopic gestation," which is theoretically included in the field of obstetrics, but almost always demands the attention of the gynæcologist, has come very prominently before the profession lately on account of several observers relating their experiences before the Societies and by the production of books and articles dealing with this difficult subject. Closely allied to this is pelvic hæmatocele, which according to some authorities is due in about a fifth of all cases to rupture of tubal pregnancies. It is well therefore to consider some points especially important to general practitioners, because in many of the cases recorded the existence of pregnancy has not been recognised by the medical attendant. Perhaps from not bearing in mind the possibility of this disastrous accident he supposes that the woman is suffering from some form of "pelvic congestion," or if he discovers a swelling he diagnoses "an obscure pelvic tumour" or a "limited peritonitis with effusion," and only when rupture of the distending sac takes place is the nature of the case suspected. This is a condition which requires to be carefully differentiated, so that if possible timely rational surgical treatment may be adopted. Formerly the view existed that after insemination the spermatozoa wended their way through the uterine cavity, up the Fallopian tube, to meet the descending ovum, and it was almost universally taught that the ovum might be fecundated in any part of its course and the impregnated ovum might take root and develop in the uterine cavity, as in ordinary cases, or in the tube where it passes through the uterine wall, —the so-called interstitial or tubo-uterine form—or in the free part of the tube—tubal pregnancy—or take root in the ovary, or even in the abdominal cavity itself. Modern investigation has thrown doubt on the existence of these two latter varieties and Mr. LAWSON TAIT, whose extensive experience entitles him to speak with authority, believes that all ectopic pregnancies might be classed as tubal pregnancies. As to the causation of ectopic pregnancies we know little. The late Dr. PARRY of Philadelphia, in his excellent treatise, showed that these anomalies are most frequent in women who have been sterile for a long time, but they may occur in the newly married or in the mother of a family. It has been suggested that attacks of desquamative salpingitis in which destruction of the ciliated epithelium takes place will account for the occurrence of tubal pregnancy. Mr. BLAND SUTTON, who has made this point a subject of prolonged investigation, thinks that this statement contains an element of truth, but considers that it does not hold good in all cases, so that the causal relation between salpingitis and tubal pregnancy requires further elucidation. The usual course of tubal pregnancies is that early rupture takes place as a rule and according to Mr. TAIT is not delayed beyond the twelfth week of gestation. Rupture of the sac may be intra-peritoneal, with escape of the fœtus into the peritoneal cavity, or it may be the intra-ligamentous form, with escape of the products of conception into the space between the folds of the broad ligament, being extra-peritoneal in character. It is in the latter form almost always that cases of extra-uterine pregnancy reach an advanced term, for sometimes development goes on after such a rupture, and the fœtus may ultimately lodge in the peritoneal cavity as the result of secondary rupture. There are many points connected with the physiological and pathological histories of these important cases which have been cleared up or are being made intelligible by the careful study of the parts which have been removed by abdominal section and also by the exhaustive post-mortem study of frozen sections made by Dr. BERRY HART and the late Mr. CARTER. An interesting case, elucidating the true history of so-called "abdominal pregnancy," was recently related by Mr. TAIT to the Obstetrical Society of London, in which the fœtus, still retaining its amniotic covering, seemed to have developed to the full term in the peritoneal cavity. It was evident, however, that it had originally been a case of tubal pregnancy, and rupture of the Fallopian tube took place about the tenth week of gestation, development going on thereafter in the cavity of the peri-

toneum. Mr. TAIT considered that this case may be regarded as giving the true solution of all cases of this variety. The important thing for the majority of practitioners is to bear in mind the possibility of these anomalous pregnancies, and the advisability of diagnosing the condition. The symptoms vary according to the advance of gestation. The patient herself very often has no idea that she is pregnant, because in the majority of cases she has not been pregnant before, and usually the practitioner has not his suspicions aroused owing to the usual signs and symptoms of pregnancy being absent or obscure. Cases have been diagnosed of diseased tubes, which on examination after their removal have been found to be gravid; but as a rule it is only when rupture of the sac occurs at some period before the end of the third month that the symptoms point to the actual state of matters, and these symptoms are modified according to the seat and direction of the rupture. If rupture takes place between the folds of the broad ligament the symptoms are less severe than when the tubal pregnancy bursts into the peritoneal cavity. In the intra-peritoneal variety the symptoms are characteristic of internal hæmorrhage after complaint is made of "something giving way" and death may supervene in the course of a few hours. Such cases of rapid death have occasionally been attributed to poisoning, but the true cause was discovered on post-mortem examination. The treatment by abdominal section is the rational course in tubal gestation, and the condition has been recognised and so treated before rupture. If at the time of rupture the symptoms of hæmorrhage be quite distinct and the patient's life in imminent danger then the abdominal cavity must be opened, and the bleeding arrested as soon as possible. If the rupture takes place between the folds of the broad ligament, operative interference is not so urgent as the hæmorrhage is restricted, but at any time in the subsequent course of the case surgical interference may be necessary to save the patient.

THE next few weeks of high-wrought excitement in the British Islands will have their quietus in a general holiday—antecedent and consequent giving no confirmation to the "error"—"vulgar," as any stigmatised by Sir THOMAS BROWNE—that contemporary exceeds all preceding life in the unrelieved stress and strain, the worry, the nerve-wear, and the other adverse influences by which suffering is lengthened and longevity curtailed. Among the bright, incidental discussions in Dr. PYE-SMITH'S lectures on the "Etiology of Disease" may be instanced that in which he drove another nail into the coffin of the otiose fallacy that the "ugly rush" of modern life incurs a prevalence of neuroses of every kind, bringing in their train a susceptibility to organic disease and an intolerance of effective treatment unknown to less bustling generations. To that as to the other tasks imposed by his subject the lecturer was more than equal, and we have seen no attempt on the part of any *fin-de-siècle* pessimist to traverse the reasoning by which he relegates the fashionable induction to the limbo of "hereditary fudge." That the induction should not only have found acceptance, but should still be propagated, is quite in keeping with the tenacious vitality of error, proving as it does that the generation which received it in bequest and is prepared to bequeath it in return—"enlarged" if not "revised"—is also open to the imputation brought by HALLAM and THACKERAY against the society of fifty years ago—that it does not read!

If there is one feature of modern civilisation more distinctive than another it is the economy of force effected by its inventions and innovations. It is indeed the triumph of the mechanical, in substitution for the personal, factor that the former minimises the forth-putting of the latter. Take one of the most familiar directions in which the individual is called upon to exert himself—that of travel or getting about from place to place. If ancient or mediæval records or the published experiences of "sixty years since" teach us anything, it is that a journey of any distance used to be a more or less serious undertaking, to be planned and prepared for days or weeks in advance, and sure to absorb the traveller's mind during every hour of his progress till he found himself safe and sound, weary but thankful, at his destination.

> **Come quei, che con lena affannata**
> **Uscito fuor del pelago alla riva**
> **Si volge all' acqua perigliosa, e guata!**

Dangers due not merely to the mode of transit, though these were real enough, but to the quality of the resting-places *en route*, to say nothing of the "gentlemen of the road" whose blackmail exhausted what the "perfidus caupo" had spared, kept the mind preoccupied morning, noon, and night, to the exclusion of that enjoyment shared by every present-day traveller, for whom vicarious exertion or agency minimises all hindrances to free attention, discursive or sustained. The reader has but to revert to SCOTT'S immortal picture of mediæval travel and hotel-entertainment in "ANNE OF GEIERSTEIN," and to compare it with the comfort and convenience commanded in the same regions—the Switzerland and Germany of to-day—to realise the exemption from anxiety, privation and positive jeopardy secured him by nineteenth century arrangements for the economy of time, of trouble, of the thousand-and-one provocatives of worry and nerve-wear and neurotic susceptibility.

The certainty and punctuality of modern communication with the more distant latitudes is another phase of economy of nerve-force characteristic of contemporary civilisation. "The hope deferred that maketh the heart sick" was a frequent concomitant of the tardy, irregular, not seldom abortive postal system of classical antiquity and of mediæval times. What the anxiety and the disappointment of the expectant correspondent must have been in those worlds we know from the letters of CICERO and ERASMUS; indeed, we can realise it in the Italy of to-day where ill-advised retrenchments in the service induce an unpunctuality in despatch and delivery which goads the British man of business in his *villeggiatura* to something little short of madness. Till lately the whole continental life was fraught with these trials to mind and temper; proofs in point even now beset us and find ample illustration in their consequences. Take one of these illustrations out of many. It is notorious that the European countries which are most backward in civilisation and mechanical improvements are also those in which the soul-satisfying, soul-soothing enjoyment of nature in her picturesque or romantic phases is least in favour. But is not this because their inhabitants are so mentally preoccupied over the petty details of life—over the incidents of

a social arrangement the reverse of easy, those of transit included—that the undivided attention which is, even for the most sympathetic natures, indispensable to adequate appreciation of the beautiful or the sublime, is for those less sympathetic ones difficult, if not impossible? GASTON BOISSIER, it is true, expanding, if not actually borrowing FRIEDLÆNDER'S induction that the Latin races have not that sense of the lovely or the grand in scenery characteristic of the Teutonic, taxes the Romans with something like apathy to the sentiment of landscape. But in abatement of the charge he brings against those gifted pro-consuls and generals who found nothing but horror and repulsion in the Alpine passes which attract the modern nature-worshipper in thousands, may it not be pleaded that the hardships, the uncertainties, the positive dangers of travel in those days, must have deadened the most poetically-attuned minds to everything but a personal preoccupation, intelligible, if also ignoble?

Modern life may render it hard to be idle; but is not "brain rust" as prolific a parent of neuroses as "brain fag"? While every opportunity is now supplied for that wholesome exercise which all minds, in their infinite diversity, require, is there not also provided that not less wholesome recreation and transition which are equally necessary for normal evolution? The human organism has a self-adjusting, self-righting virtue that makes it intolerant of persistence in any course injurious to itself. It shifts its position, it leaves off in due season, it relieves or remedies itself with an instinctive punctuality that saves it from long-continued error. Every year multiplies its opportunities of restorative change: the railway, the steamship, the agencies to which fashionable theory attributes all the vague influences believed to impair the nervous system are precisely those which are most instrumental in bringing the requisite relief and renovation. Climate, thanks to these agencies, is now a therapeutic resource in yearly greater request, particularly for invalids drawn from those classes whose cerebral and moral powers are brought most intensely into play. The seaboard, the island, the mountain, high latitudes and low latitudes, the arctic yachting cruise, the sojourn in the winter city or in the great sun-bath of the Sahara itself—are additions to the consultant's armoury made available by those latter-day inventions which are superficially credited with the evils they most contribute to neutralise. Dr. PYE-SMITH has already laid medicine and rational therapeutics under many obligations. He has done few more opportune services than by demonstrating—with an acuteness and a command of scholarship in his case hereditary—that the means by which modern life is assisted and expedited stand in no causal relation to the genesis—real or supposed—of neurotic temperaments or of "nervous disorders."

WE are glad to be able to state that Mr. Gladstone has not suffered any serious consequences from the regrettable outrage of which he was the subject on Saturday last at Chester. Undoubtedly he must have endured great pain from the nature of the injury and the results at his age might have been exceedingly serious. Fortunately it has been otherwise.

Annotations.

"Ne quid nimis."

MEDICAL CANDIDATES BEFORE THE CONSTITUENCIES.

IN greater force than hitherto the medical profession has come forward for parliamentary honours in the election now imminent. Constituencies of every kind—county, borough and great city—have medical candidates before them and each nationality, that of England, Scotland and Ireland, has its representatives among these. This, we cannot but think, is a wholesome innovation on the too reserved attitude maintained by the profession towards politics in days gone by. If returned, as there is reason to expect the majority of such candidates will be, the interests of the public in Parliament will be considered and safeguarded by them in a direction heretofore unrealised. Problems of the deepest importance will no longer be left to the half-informed, half-hearted initiative or promotion of the political amateur, and State medicine and professional education, in their manifold aspects, will for the first time have something like justice done them by those best qualified to take them in hand. A glance at the names of the medical candidates in nomination will reassure the profession and the public that, whatever may be thought of them as political partisans, they have the education, the experience and the ability to give to the problems referred to the attention they demand. Sir B. W. Foster solicits re-election for the Ilkeston Division of Derbyshire and grounds his claim to the honour on a record of good work already done. In the Walton Division (Liverpool) Dr. B. W. Richardson is a candidate and, if successful, may be counted on as an accomplished, eminently capable and fearless advocate of reform in sanitary and social questions. Dr. Charles Cameron, who stands for the College Division of Glasgow, is well known as a conscientious and useful member, never absent from his place when the interests of the public health or the adequate recognition of the profession are before the House; while Dr. R. Farquharson and Dr. G. B. Clark, the latter a candidate for Caithness-shire, the former for West Aberdeenshire, are honourable types of the medical legislator, prepared to add to their previous record of good service for the body politic. Ireland sends up for re-election a proportionately greater number of medical candidates than either of the sister kingdoms and in Mr. J. G. Fitzgerald, Mr. J. E. Kenny, Dr. Tanner and Mr. J. F. Fox has already found popular representatives with their constituencies and their colleagues. Other names in the list of candidates are those of Dr. E. C. Thompson, who contests Mid-Tyrone; Dr. Verdon, who stands for the suburban constituency of Norwood; and Dr. Pollard, who courts the suffrages of the Southport Division of Lancashire. The number may yet be reinforced by hitherto unannounced candidates who, at the eleventh hour, have come forward for constituencies not yet contested. But, even as it stands, the list we have set forth is more numerous than any previous general election has called forth and the character of its *personnel* is not inferior to that of any equal number of men drawn from other walks of life. Parliamentary representation, discussion and legislation have nothing but good to reap from such an accession of the working power of members professionally educated like these.

CHOLERA AND ITS PROSPECTS.

ALTHOUGH cholera is decreasing at Meshed, the fatal attacks having fallen to some thirty-five a day, yet the disease has extended over a wider area and has at last entered Russian territory in Europe. Passing in a westward direction from Meshed, a number of towns have at intervals

been attacked in the direction of Astrabad and still further westward the disease subsequently appeared at Abasabad on the southern shore of the Caspian Sea. But the disease also crossed the mountain frontier between Meshed and Russian Turkestan, making its appearance notably at Khaaka and Askabad. Then it followed the railway route and has since been reported at Usun-ada on the eastern shore of the Caspian. The passage across the Caspian from this point is not difficult to understand and as a matter of fact the important port of Baku in European Russia, situated on the western coast of the Caspian, soon became attacked. Thus the southern portion of the Caspian Sea has been invaded at three points, and not only so, but the disease would appear to have extended in a south-westerly direction from Baku towards the Turkish frontier, for the town of Shusha, in the province of Elizabetopol, is now also a seat of cholera. There is, further, the prevalence of cholera in Samarkand and Bokhara, in both of which Russo-Asiatic states a number of towns have been attacked, and between which and Russia in Europe there is a not unimportant traffic. No trustworthy statistics are as yet available as to attacks or fatality, but it is certain that in Russian territory there have been several hundred deaths from cholera. The town of Bokhara is said to have escaped and its escape is attributed to the advanced sanitary measures which have been steadily adopted there since last December, the action having been taken at the instigation of the resident Russian diplomatic agent. The immediate interest in this intelligence lies, for us, in the prospect of a European invasion of cholera. The route which the disease has taken is by no means a fresh one; and it is, besides, one that by reason of its traditions as to Oriental plague in and about Astrakan is known to be one where the conditions favourable to the diffusion of cholera have long since abounded and still abound. It is, at the present moment, impossible to forecast the future. But without professing to any prophetic accuracy, we may say that there are substantial reasons for fearing that eastern Europe is in risk of cholera invasion. At the same time we may add that, unless the extension becomes more rapid than it has been during the last month, an even greater danger to Europe may lie in a recrudescence of the infection next year than any wide prevalence this year. If this apprehension be correct, time will be afforded to Governments and sanitary authorities to prepare themselves in advance by means of those well-known sanitary measures which constitute the best defence against cholera invasion.

FATAL RESULT OF WATER DRINKING.

AN old way of poisoning criminals used to be to compel them to swallow large quantities of bull's blood and it is interesting to note how this acted as a means of causing death. Bull's blood is not a poison at all in the ordinary sense of the word, but when it enters the stomach it forms a coagulum, and instead of the organ being filled with liquid which might be ejected by vomiting, it is filled with a solid mass. This mass presses upwards upon the heart and displaces it. The pressure upwards upon the lungs interferes with the respiration and the pressure backwards upon the aorta, vena cava and the solar plexus would probably be sufficient to cause death. The same thing occurs in animals when they are first turned out among the clover; they overeat themselves and are very likely to die from over-distension. A case was recently reported in the newspapers of an Irishman who had eaten largely of potatoes and milk and who died suddenly. The post-mortem examination revealed no disease. He was apparently healthy, except that his stomach was distended, and no doubt he died in exactly the same way as the criminals who were compelled to drink bull's blood. Generally death cannot be brought about by the simple drinking of fluids, because the stomach is able to eject them. Apparently, however, this is not always the case. In one of the lay papers a few days ago there was a notice of three Frenchmen who laid a wager as to who would drink most water and all three of them died in a comparatively short time. The death in this case might have been partly due to the distension of the stomach and partly to the effect of the water on the blood after its absorption. It very rarely happens in a healthy person that enough water can be absorbed to cause any alteration in the blood, because it is excreted as rapidly as it is absorbed and the composition of the blood is kept nearly constant. Death from the action of water on the blood may occur after profuse hæmorrhage when thirst is extremely urgent. This has been noticed in the battlefield and also in the case of women who have been nearly drained of blood by hæmorrhage. In these cases it is always advisable not to give pure water to quench the thirst, for it is not only an irritant to living tissue, but it is also destructive to the blood. The risk of injury is considerably lessened by adding a little salt to the water, making it of the strength of the physiological normal saline solution.

THE PERFORMANCE OF CLASSIC PLAYS AT PUBLIC SCHOOLS.

THE "struggle for existence" on the part of the ancient languages amid the competing claims of the "modern side" has forced their teachers to introduce salutary innovations on the traditional methods of cultivating them. One of these innovations, which has gone far to restore their popularity, is the performance at school or college of the masterpieces of Greek or Roman dramatic genius, and year by year the practice has commended itself with steadily increasing advantage to teacher and pupil. Like many other so-called innovations, this one is simply an extension of old custom, a connecting link with which may be found in the "Westminster Play." At the Renaissance and for two or three generations after it, not only were classical plays performed by the young scholars at the principal seats of learning, but new plays—mostly in Latin—were specially written for them and reproduced on the academic boards under the superintendence of the teaching staff. George Buchanan, to instance no other, was one of the most successful of these playwrights; and for the students at the College of Bordeaux, in which he was the leading Latinist, he wrote the "Baptistes" and the "Jephthes," the plot of which he derived from two of the most tragic incidents in Old and New Testament history. With a similar object he translated into Latin verse the "Medea" and the "Alcestis" of Euripides. His pupil Montaigne has put upon record how much he owed to these performances; but the benefits to be drawn from such modes of schooling the young mind in literature and language are not æsthetic or linguistic merely. The physical exercise they necessitate, the training of the voice, the development of the chest, the sway of the person are all most salutary adjuncts to the educational system, and indeed are but another revival of ancient practice in one of its most admirable phases. In their worship of the body (which no doubt they pushed to extravagant lengths) the "clara lectio" of the Romans was one of their most prized auxiliaries to the maintenance of health and the perfecting of the physical organism—a "reading aloud," as the late Dr. King Chambers pointed out, not in the constrained attitude and the grotesque mannerism of the candidate for "clergyman's sore-throat," but with head held back and chest thrown out, with distended nostril and animated eye, with sympathetic action and speaking gesture, as we see in gems and similar relics of the plastic genius of antiquity. When, furthermore, such wholesome and life-invigorating exercise is carried on, as in ancient Rome or Athens, in the open air, we have all the conditions of a salutary gymnastic, coming in reinforcement of the physical training which is

now seen to be an indispensable adjunct of the growing boy's upbringing. The highest point to which such a happy resuscitation of classic method has yet attained is the performance of Greek or Roman plays as now practised at some of our chief public schools and Universities—at none more effectively than at Bradfield College where for three days last week might have been witnessed the "Agamemnon" of Æschylus, mounted and acted with a success that profoundly impressed the beholder. The theatre occupies a chalk pit within easy distance of the college, its steps rising in terraces for the accommodation of the audience, as may be seen in such comparatively perfect examples of the ancient open air theatre as that at Fiesole. The head master, Dr. Gray, drew happily on his archæological lore for the scenic details so as wellnigh to persuade the auditory that they were really assisting at an antique performance. Careful rehearsal had obviously prepared the young actors for their more than adequate representation of the *dramatis personæ*, Mr. Willis evoking just admiration for his "Cassandra" and the head master himself winning universal applause for his rendering of the short speeches assigned to the Coryphæus. To the young men who witnessed—still more to the young men who acted—the play, a deeper, fuller appreciation of its grand and subtle beauties than was possible under the old reading-lesson system must have been imparted, so that in after life, in the intervals of professional or business cares, they must inevitably go back with pleasure to an original so vividly and agreeably imprinted on their minds. We hope to see the extension to all public schools of such performances as that for which Bradfield College has earned so honourable a reputation—performances not limited to Greek or Latin *chefs-d'œuvre*, but including the master works of Molière and Racine, of Goldoni and Alfieri, of Schiller and Shakespeare himself. It is surely a welcome revolution in the "wearisome bitterness," as Milton called it, of classical study at school, when mind and body, eye and ear, voice and gesture, are combined in the interpretation of its most interesting subject-matter in so effective and in every sense so salutary a mode as in the revived representation of Æschylus and Sophocles in the open air.

FOOD-SUPPLY AFLOAT.

"ENGLAND expects every man to do his duty." So ran Lord Nelson's famous signal at Trafalgar. Is it not time to put the converse of the saying, "Every man expects England to do hers"? Certainly she has been wanting, in many ways, to her sons of toil, agricultural, mechanical and combatant—to none more than to her "hearts of oak." The privations of her merchant and naval seamen are matters of history, burnt into her annals by writers like Smollett, whose picture of the horrors of the Cartagena expedition, in which he served as surgeon, forms one of the most tragic pages in literature. Scurvy down to much more recent times decimated her crews, in spite of the warning note of John Woodhall, surgeon's mate, in 1636, who suggested the lemon-juice ingredient in naval diet, which was made obligatory only in 1795 by the exertions of another medical philanthropist, Sir Gilbert Blane. The disease is now practically extinguished in the services afloat, so much so that naval surgeons assert they have never seen a case of it; but from time to time we have evidence that the neglect—or worse—with which the food-supply of seamen is maintained still justifies the indignation of the sanitary reformer. We need not go back to the shameful frauds practised on more than one Arctic exploring expedition in which the tinned meats and vegetables proved, when opened in high latitudes, to be unfit for consumption. Only the other day the good ship *Crofton Hall* is stated to have revealed as scandalous a breach of faith in the victualling of its hands as any yet made known to us. Having sailed with a clean bill of health on the 3rd ult. from Calcutta, she put back to that port on the 13th with but five out of her crew of twenty-nine in a condition for active duty. And the alleged cause was that meat had been served out in so advanced a stage of decomposition that many of the sailors threw it overboard the first day. Notwithstanding this emphatic protest the tainted meat continued, it is said, to be set before them till, hunger surmounting disgust, the whole stock was consumed. By this time the inevitable consequences became apparent. "Cholera"—or at least violent diarrhœa—broke out on board, carrying off two men on the second day, four others later, and ere the week closed putting nearly all hands on the sick-list. Calcutta was shocked to see the vessel return in a state so appalling, and the indignation of the citizens may be imagined. Pending the official inquiry, we may remark that the case occurs not inopportunely when questions of sanitary reform, among others, not more clamant, are coming before the constituencies. Protection for the lives and limbs of our sons of toil is rapidly asserting its truly imperial importance, and no attempt at its practical solution can be regarded as complete which fails to take cognisance of the victualling and health of our crews, combatant and non-combatant, in whatever waters they may serve.

SMALL-POX PROSPECTS.

ONE of the most serious prevalences of small-pox is that which is still in progress in and about Halifax, the borough itself and a number of surrounding sanitary districts being affected. Special arrangements have been made as to attendance on the sick and at least one hospital has been hurriedly erected in order to isolate the patients. Seventeen cases are also reported to be in the small-pox hospital at Liverpool. In the metropolis, the diminution in the number of fresh cases which set in some weeks since has, in accordance with our anticipations, been maintained; the number of fresh attacks during each of the four weeks ending June 18th having been thirty-one, twenty-eight, twenty and thirteen respectively. Thus, as we have already suggested, the main danger to be anticipated is the recurrence of the small-pox, which has managed to diffuse itself in a number of centres, during the approaching winter.

A WORD OF PROTEST *RE* TESTIMONIALS.

SEVERAL correspondents complain of being written to for testimonials by gentlemen with whom they are unacquainted and whose names are perhaps only known to them by the occasional receipt of a treatise or of a reprint of a paper read before a society or published in one of the periodicals. We must express sympathy with practitioners in their complaint, but should have thought that they usually consigned pamphlets, if apparently sent to them for such a purpose as obtaining a testimonial at some future time, to the waste-paper basket. We find, however, that many of the most eminent men in our profession and some of our busiest consultants carefully read and value them. At least this is the only conclusion at which we can arrive when we examine a batch of testimonials—over thirty in number—which have been given to, we believe, a very eligible candidate for an appointment at a hospital. In these testimonials one-third of the writers explicitly state that they have no *personal* knowledge of the candidate, and it is clear that, with two or three exceptions, the others are equally ignorant. From the following typical example the character and value of these testimonials may be estimated: "The writings of ..... show that he is a ..... who possesses a high degree of medical ability, scientific and practical, which cannot fail to ensure for him future distinction and to augment that which he has already

achieved." Many others go a little further and are bold enough to assert that if the candidate be elected it will be of marked advantage to the institution. Eminent members of our profession evidently therefore feel themselves justified in testifying to the possession of those practical qualities which are essential to an important hospital appointment by a candidate whom they have never seen at work. We question if they would not more carefully consider their position if they were asked to testify with regard to a post at their own respective hospitals. The manifest injustice to other candidates involved in the giving of such certificates of proficiency need not here be adverted to. We need only say that they would be valueless in the estimation of any judicious medical committee; and if submitted to a lay committee "the more 's the pity of it," as they might even turn the scale against the candidate in whose favour they are written. If good nature prompts kind hearts to yield to the temptation of giving testimonials to gentlemen of whom the givers have no personal knowledge, the latter can only blame themselves if their time is invaded by every applicant for an appointment who has had the opportunity or ability of writing an essay and who takes care that it has been sent to them and doubtless afterwards reminds them of the fact. The objectionable practice is one of their own creation and the remedy is in their own hands.

"CURES" FOR INEBRIETY.

A CIRCULAR has been widely distributed by another American company which also professes to cure this disease, but of course disclaiming the method to which we referred in a former number. From this we learn that a medical man with an English qualification is the medical officer to the company, and the same gentleman begs to state that he has answered our article of June 6th, 1892. The distribution of a small book of the usual type, affording only the vague information that the treatment is by hypodermic injections of modern alkaloid, is another instance of the total disregard of professional ethics in these matters to which we then referred. There is no question but that any medical practitioner is passing beyond the limits of professional etiquette in thus administering secret remedies, and we would suggest that the licensing authority from which he derives his qualification should take some notice of the circular and pamphlet. From an advertisement which appears in our columns it will be seen that Dr. Leslie E. Keeley has been invited to explain his treatment to the Society for the Study of Inebriety on July 5th. This is a proper method to pursue.

CRUELTY TO CHILDREN.

THE *Child's Guardian* for June contains a full report of the eighth annual meeting of the National Society for the Prevention of Cruelty to Children. We are pleased to learn from it that the needful work done by the Society continues to grow in public favour and effective usefulness. It is significant of the care with which the cases dealt with by the Society are selected that out of 8324, the total number brought before it during the past year, 7291 proved to be indictable on the ground of cruelty. We would, however, direct attention specially to certain points in the treatment of children and the detection of cruelty discussed by speakers at the recent meeting. Some observations by Mr. H. H. Fowler on the regulation of circus training in the case of children may be mentioned in illustration. Still more evidently called for was a vigorous protest by the same gentleman against the practice of child insurance. The object of life insurance, as he remarked, is to provide compensation for pecuniary loss sustained in consequence of a death. Where the deceased was a child no such loss was incurred and consequently there was no real occasion for insurance. Any difficulty as to funeral expenses would best be met by some arrangement which would provide, not a sum of money, but the services of an undertaker and other incidental necessaries. The fact that cruelty, and gross cruelty too, is met with not only in poor but in wealthy homes was noticed by more than one speaker. It may be quoted here as affording a suggestive answer to some who attribute this form of crime in the artisan class to pressure of poverty. The Earl of Fife did good service in advising that the powers entrusted to the police under the Cruelty to Children Act should be more freely used than they now are. Among those present at the meeting were the Bishop of Rochester, the Bishop of Portsmouth (who appeared for the Archbishop of Westminster), Lady O'Hagan, Mr. Benjamin Tillett and others whose names afford sufficient evidence of the scope of public interest in the Society and of the worthiness of its endeavours. A well-deserved reference to the strenuous labours of its secretary, Mr. Benjamin Waugh, should not be forgotten in this brief report of proceedings at its latest annual convocation.

STREET ACCIDENTS.

MR. GAREY, M.R.C.S., of Glasgow, who is a member of the Town Council of that city, is to be congratulated on having recently induced the Council to deal more liberally with members of the profession who are summoned to attend in cases of street accident. Hitherto the fee for such attendance as only been paid when the injured person was both able and willing to pay it, but in future the city will pay a fee of five shillings in all cases of day accidents and ten shillings in night accidents; and this will be done whether the doctor be summoned by a police officer or by any other person. This arrangement must be regarded as fairly liberal on the part of the City authorities, in view of the fact that already there are specially appointed casualty surgeons receiving amongst them £460 a year and that the new system is altogether supplementary. The position of casualty surgeon has been frequently held by surgeons who have become eminent. Dr. Wm. Macewen did some excellent work in this department in his earlier years. We feel sure the profession in Glasgow will fully appreciate Mr. Garey's action on their behalf.

ENTERIC FEVER AT NORTHALLERTON.

THE Northallerton Local Board of Health are very properly much exercised because of a prevalence of enteric fever in their town, and they have passed a resolution requesting the Local Government Board "to come and hold an inquiry into it." As a rule, when such resolutions are passed there is some obscurity attaching to the outbreak which calls for "inquiry." But nothing of the sort seems to exist in Northallerton. Mr. Lumley, the medical officer of health, indeed, tells his authority in advance what the result of the inquiry will be. He says "the wells on [one] side of the town would be condemned;" and he adds that he himself analysed samples from seventy-two wells some time ago and only found "three or four that were really good." The matter being put to the local board in homely phraseology, it was explained that the circumstances about the wells were such that "these wells are receiving the typhoid germs which fly like yeast in bread." We hardly understand, under these circumstances, what there is that has to be inquired into, and we should hold that the local authority were highly to blame for allowing such wells to exist were it not that some time since measures were taken to supply Northallerton with an improved water-service. According to the local press plenty of good spring water is available in or near the town and it should be obvious that it is action rather than inquiry that is wanted; the first action being to close the polluted wells and at once supply a wholesome water, at least twice a day to every house, by means of water-carts which have been filled

at a source where no risk of pollution exists. The remaining action, with regard to such matters as isolation, disinfection, &c., can be explained to the authority by their own medical officer of health and doubtless this has been already done.

THE CHELTENHAM LOCAL BOARD.

WE are pleased to find from the Cheltenham papers that the Local Government Board has removed the suspension of Mr. Walters, not, however, without a censure on Mr. Walters for ordering treatment without first visiting the case—which Mr. Walters denies having done. We still consider that the question of whether a Poor-law medical officer is justified in seeing a pauper patient without an order has not been satisfactorily settled by the central authority in its decision upon this case and we trust the matter will not be allowed to drop.

THE ASSOCIATION FOR THE ADVANCEMENT OF MEDICINE BY RESEARCH.

THE annual meeting of the Association was held on June 27th, Sir Andrew Clark presiding. The report showed the increasingly good work done by the Association and that through its instrumentality great facilities were afforded to those who were engaged in scientific work in obtaining licences. It therefore deserved the support of all who were interested in the advance of scientific medicine. The working annual expenses are but small, but as the funds are now nearly exhausted contributions are asked to enable the Association to continue its good work. These may be sent to the treasurer, Dr. Wilks, 72, Grosvenor-street, W., or to the secretary, Mr. Stephen Paget, 57, Wimpole-street, W.

THE ISLINGTON MEDICAL OFFICERSHIP OF HEALTH.

ON Friday of last week there seems to have been another vestry storm over the motion for suspending the by-law which would prevent Dr. Wynn Westcott, lately a member of the vestry and now temporary medical officer of health, from becoming a candidate for the permanent office. There were only eighty-five members in the division. Eventually the resolution to suspend the by-law was carried by fifty-seven to twenty-eight votes. It looks as if Dr. Westcott's friends were more in earnest than those who do not like to see by-laws tampered with in favour of ex-members of the vestry. There are, we understand, about thirty candidates. They will be sanguine gentlemen if, in the face of these proceedings of the vestry, they fail to see a foregone conclusion.

"CHOLERA NOSTRAS" IN PARIS.

THE Consultative Council of Hygiene of France have held an important meeting to discuss the prevalence in Paris of cases qualified as "cholera nostras," but which have excited considerable alarm. An official report was drawn up and will shortly be published. From private sources we have received information on the subject, but before publishing the same will wait till the issue of the official report. We trust that this report will contain a full account of the bacteriological experiments made with the microbes derived from the dejections of the patients. The history of the cases should be coupled with some account of the water-supply in the districts that have most suffered. The epidemic, slight as it was, is supposed to be subsiding; it was nevertheless sufficiently serious to justify special measures on the part of the Paris Municipal Council. A committee was secretly appointed to inquire into the matter and to take special measures should the epidemic suddenly spread. A number of deaths continue to be registered under the heading of "Cholera nostra, Cholerine et Entérite," the latter term especially may mean anything. It will be found, we believe, that many of these deaths are due to drinking the water of the Seine; or, in any case, that such deaths are more frequent in those quarters and outlying districts of Paris where the water companies only provide water from the river Seine. We trust that so independent and official a body as the Consultative Council of Hygiene of France will deal fearlessly with this question and that the short-sighted desire to prevent panics will not hinder the publication of the full truth.

PROFESSOR MURRI OF BOLOGNA.

FLORENCE, as we recently announced, has lost in Professor Federici one of her most brilliant and useful teachers and consultants, and her Senatus Academicus, consisting of the *personnel* of her Istituto di Studi Superiori, has been sounding Professor Murri of Bologna as to his willingness to accept the vacant post. At the prospect of seeing their own seat of learning deprived of an exceptionally able and effective colleague, the Bolognese professors have met in council and agreed to frame an address urging Professor Murri to let no inducement tempt him to prefer the Florentine chair to that in which he has won such honour for himself and for Bologna. So matters at present stand—the Bolognese students adding their voice to that of their professors for the retention among them of a teacher so difficult to replace. We believe no action on either side will be taken till the close of the month, when Professor Murri will have returned from Carlsbad.

THE ANNUAL GENERAL MEETING OF THE ASSOCIATION OF FELLOWS.

THE Association of Fellows of the Royal College of Surgeons of England held its annual meeting on Thursday at 5 P.M., at the rooms of the Zoological Society, 3, Hanover-square, Mr. Holmes, Vice-President, in the chair. Among those present were Mr. Alban Doran, Mr. John Tweedy, Mr. Allingham (sen.), Mr. G. F. Helm (Cornwall), Mr. Vincent Bell (Southampton), Mr. Geo. Jackson (Plymouth), Mr. T. B. Keetley, Mr. Purnell, Dr. Collins and others. After the confirmation of the minutes a long and interesting speech from Mr. Holmes and the adoption of the report of the Committee, a resolution was unanimously passed to support Mr. John Tweedy at the election on the 7th inst. About fifty letters, postcards, &c., had been received from members who regretted their inability to be present. As we are going to press we reserve further notice of the meeting till next week.

CORNISH SANITARY ADMINISTRATION.

THE County Council have stirred up the question of sanitary administration in Cornwall and they have done well, for sanitary activity has never been a leading characteristic of this remote member of the sanitary body of Great Britain. Some of the annual reports of the medical officers of health are regarded as inadequate; others, by way of contrast, are held to be typical of what such reports should be and that prepared by Mr. J. Q. Couch on the Madron urban district is quoted *in extenso* as a pattern. The precise function of County Councils towards annual reports of medical officers of health has always been very obscure; such useful action as they have commonly taken on them has been the result of advice by a county health officer. Whether such an official exists in Cornwall is not clear. We read in the local press of the "honorary medical officer" to the county, but he comes in for some reflection too, for he is told that the committee of the Council fear he has given a more encouraging report on the sanitary condition of St. Ives than the circumstances warrant. The whole story of the Council in this matter is really somewhat difficult to understand.

FOREIGN UNIVERSITY INTELLIGENCE.

Athens.—Dr. R. Nicolaides has been promoted to an Extraordinary Professorship of Anatomy and Physiology.

Basle.—Dr. A. E. Burckhardt has been promoted to an Extraordinary Professorship of Hygiene.

Bern.—Dr. W. von Speyr has been promoted to an Extraordinary Professorship of Mental Diseases.

Breslau.—Dr. J. Kolaczek has been promoted to an Extraordinary Professorship of Surgery.

Ghent.—Dr. van Imschoot has been appointed to give the lectures on clinical surgery which have hitherto been given by Dr. F. Soupart, Emeritus Professor.

Greifswald.—Dr. A. Kruse has been recognised as *privat-docent* in General Pathology and Morbid Anatomy.

Munich.—Dr. Moritz has been appointed Extraordinary Professor of Medicine, with charge of the Policlinic in the Reisingerianum.

Vienna.—The following promotions to Extraordinary Professorships have been made:—Dr. Englisch, Surgery; Dr. Bergmeister, Ophthalmology; Dr. Hochsetter, Anatomy; Dr. Kolisko and Dr. Paltauf, Morbid Anatomy.

Warsaw.—The Medical Faculty has selected for the Lectureship on Surgical Pathology Dr. M. A. Vasalieff, chief Surgeon of St. Roch's Hospital, and for the Lectureship on General Pathology and Therapeutics, Dr. M. K. Zênets.

THE following invitation has been issued to the Fellows of the Royal College of Surgeons along with their voting papers:—"The President and Council invite the Fellows to meet them in the Theatre of the College on Thursday, July 7th, at five o'clock P.M., after the conclusion of the Election to the Council on that day."

DR. A. P. LUFF, lecturer on medical jurisprudence at, and physician to, St. Mary's Hospital, has been appointed Official Analyst to the Home Office, in the place of the late Dr. Meymott Tidy.

REPORT OF
The Lancet Sanitary Commission
ON THE
WARMING AND VENTILATING OF PRIVATE DWELLINGS.

THE best practical application of the principle of warm walls and cold air is undoubtedly the house which M. Somesco, Civil Engineer, has built for himself at Creil. We were fortunate in visiting M. Somesco on a day when a strong north-easterly gale was blowing. Wind creates greater difficulties than cold; but on this occasion we had both wind and cold. It is important to note that M. Somesco's house is built on marsh land. On both sides of the house there is a river and but for the construction of embankments flood would constantly occur in this spot. It was necessary to dig six feet below the level of the cellar floor to find a foundation. As much masonry had to be placed under the house to form a foundation as would have sufficed to build it. The garden, in the midst of which the house stands, was also artificial. Nor is there any shelter from the winds. The house stands alone in the midst of what is now a garden, but which used to be a dismal swamp. The system of warming and of ventilation has therefore been tested under the most trying circumstances. In shape M. Somesco's house is square, measuring twelve metres. It has cellars, two floors and above these under the roof a large sort of hall which serves as a billiard-room. The hollowed walls are 55 centimetres thick. The external wall is 22 centimetres and the inner wall 11 centimetres, so that there is an intervening space between the walls of 20 to 22 centimetres. These walls are made with porous bricks, but in the basement the walls are massive. The house is like one box inside another box with a space of four to five inches between the two boxes.

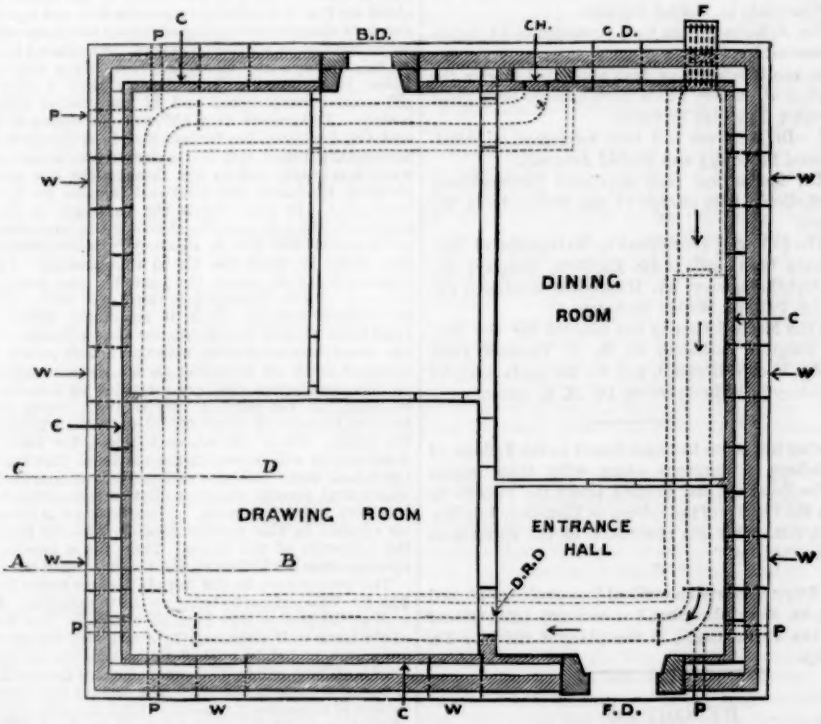
Outside, at the back of the house, there is an ordinary coal furnace. The smoke and heat from this furnace pass into a chamber built in the cellar of the house, measuring about six feet in length and not quite two feet square. From this heat chamber and going all round the outer walls of the cellar there is an enclosed passage. Suspended in the centre of this passage and also going the whole way round the house is a metallic flue of more than a foot diameter (35 centimetres internal and 37 centimetres external diameter). This serves as a chimney and draws off the smoke and the heat from the furnace and heat chamber, travelling horizontally round the four sides of the house; and then, when it is nearly back to the furnace, the flue opens into a chimney, the smoke and what heat remains go up vertically to the roof. In other words, the basement of the house is surrounded by a narrow closed passage, in the centre of which is suspended the flue or chimney from the furnace and this flue serves to warm the air in this passage. To keep the cellar cool and to retain the heat that goes round the cellar the wall of this passage is covered over with "sluck wool" or "silicate cotton," as it is sometimes called, which is considered a better non-conductor than asbestos. All round the house communicating with this hot-air passage there are inlets of fresh air from the garden, which measure eighty by fifty centimetres and are protected by metallic gauze or webbing. If the wind is very violent a coarse canvas may be hung in front of these air inlets on the windward side of the house. There are ten such inlets, the fresh air being delivered, as will be seen in the sectional drawing A B below the hot-air flue. The pipe or flue rests on iron bars and on a socket that permits the easy dilation and contraction of the iron with which it is made. The drawing C D shows how the air warmed in this passage ascends into the space between the two walls of the house. There are a number of these openings into the hollow of the wall all round the house.

The temperature in the hot-air passage varies from 114° to 122° F. This suffices to bring up the temperature of the inner wall on the ground floor from 86° to 92° F. The temperature of the inner wall decreases by about one degree centigrade per metre of height. Thus if the wall on the ground floor level is at 35° it will be 32° C. on the level of the first floor, which is three metres higher up. The hot air that travels up the hollow of the walls comes out in the large attic under the roof of the house. If this air is warmed to from 114° to 122° F. when it enters the space between the walls it will have fallen to about 104° F. as it emerges from the wall into the attic. From this attic the hot air filters into the open through the porosity of the roof and by the various openings, chinks, &c.

Much of the success of this experiment depends upon the porosity of the walls. Every precaution is taken not to interfere with this porosity. There is no plaster work put on the walls and there is no paint or paper. A light wooden frame is nailed on to the walls and from this tapestry—that is, a tissue, as far as possible a woollen tissue—is suspended and replaces paper. Some hangings of this description can be obtained that are hardly any dearer than good paper, and though for artistic purposes expensive woollens are employed, the expense in the long run is not great, for the cloth lasts an indefinite time and, unlike paper, can be taken down and cleaned. It also contributes very materially to maintain the warmth of the walls. M. Somesco has now lived in this house for some years. Without the aid of fires, when the windows were shut, he has never known the temperature of the rooms fall below 54° F. and this during the hardest frost. If the windows were thrown wide open the temperature indoors would not fall below 39° F. in spite of the frost. The air coming through the windows is absolutely cold and frosty, but the thermometer rises under the influence of the heat radiated from the walls. There is a fireplace in each room, though fires are very rarely lighted. When, however, it is very cold weather and the windows have been open for a long time, then it is expedient to light a fire for an hour or so. As there is no loss of heat through the coldness of the walls the room is warmed in a very short time. On the day of our visit the drawing-room windows had been open for two hours and as the weather was very cold a fire was lighted, but soon the fire was let out, the room was too warm, the thermometer marking 78° F. We left the drawing-room for some time. We opened the front door leading to the garden and the drawing

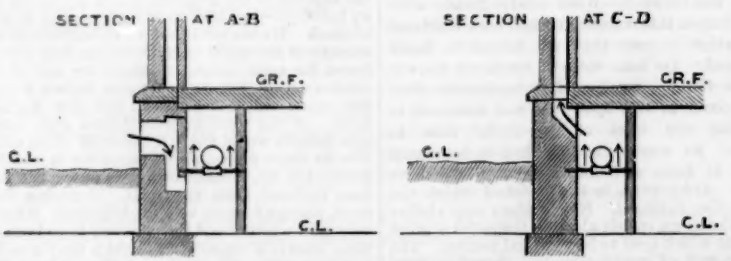
PLAN OF GROUND FLOOR AND BASEMENT OF M. SOMESCO'S HOUSE AT CREIL, OISE, FRANCE.

PLATE No. 1.



The dotted lines indicate the warming flue passing down the centre of the hot-air passage in the basement of the house. The plan gives the walls underneath the windows and indicates the space for hot air between the outer and inner wall. C C C, The arrows show the hot-air space between the walls. C D, The door from the garden into the basement. B D, The back door. F D, The front door. D R D, The door from the entrance hall to the drawing-room. F, The furnace lit in the garden outside the house. The arrows from the furnace indicate how the smoke and hot air pass horizontally round the house till they reach C H, where a chimney carries the smoke vertically up to the roof. P P P P, Apertures through which brushes may be passed from the garden into the smoke flue to clean away the soot. W W W W, Position of the windows.

PLATE No. 2.



Section A–B, Showing inlet of air into the basement passage where the air is warmed. G. L., The ground level of the garden. C. L., The ground level of the basement or cellar. GR. F., The parlour floor or first floor of the house. The inlet of air as indicated by the arrows is below the smoke flue, which is suspended in the centre of the passage, so as to warm the air in this passage.—Section C–D.; G. L., Shows the outlet of the air above the smoke flue. The air warmed by contact with this flue passes upwards in the intervening space between the inner and outer walls of the house, so as to warm the entire substance of the walls.

room door, which was from four to five feet from the front door. Thus the fresh air from the garden blew freely into the drawing-room. Yet, and though there was now no fire, the radiation of heat from the walls was such that the thermometer marked 66° F. In the garden the temperature was below 50° F. and a strong north-easterly gale was blowing. Thus we were while indoors breathing cold, pure air from the garden.

We have seen that M. Somesco's house was built on a swamp; and yet the principal, if not the only, inconvenience from which he has suffered is extreme dryness. We visited other houses in the neighbourhood and found the walls stained by the damp to a height of six or seven feet; some of M. Somesco's furniture and other objects were spoiled because the wood had split in consequence of its extreme dryness. To counteract this inconvenience, M. Somesco has been obliged to place a large number of plants in different parts of the house, a measure which, however, adds considerably to the charm and beauty of the place.

The heat and dryness thus secured cost M. Somesco ten tons of English household coals per annum. His house has fourteen rooms and ten persons could live comfortably in it. The cost would then be one ton of coal per head per annum. But then it must be noticed that the furnace and the system of warming the passage round the basement of the house are somewhat roughly contrived and that more economical methods of obtaining the necessary heat could be easily devised. Then it must also be noted that it is not a question of warming one room or a portion of a room, but that the entire house is equally warmed, and warmed to such an extent that doors and windows are constantly opened and this in spite of the exceptionally cold and damp nature of the surrounding soil and the exposed position the house occupies.

Over and above all these considerations M. Somesco maintains he has realised the ideal that a dwelling should be like our clothes, only not portable, but permeable. It should be warm, because it should be made of materials that are bad conductors of heat. Indoors we should possess means of counteracting the chilling effect of the outer air. We ought to live indoors as we live out of doors and we should consider our house merely as if it were an extra great-coat. The coat, if porous, will be warm and healthy. One of the reasons, he says, why we are apt to feel uncomfortable when it rains is that the rain blocks up the porosity of the walls and that, too, on the windward side. As for microbes, M. Somesco proudly pointed to the artistic drapery which covered the bare bricks of his porous walls. "These are," he exclaimed, "my microbe traps. If I have any reason to believe that injurious microbes have been introduced into my house, I know pretty well where to find them. It would take but little time or trouble to unhook all this drapery, to put it in the disinfecting stove and there superheated steam under pressure, without injuring the cloth, would assuredly kill the microbes. Even without these artificial methods of purification, if the walls were porous, oxygen would go wherever the microbe went and nature would effect its own cure." How far a porous wall can filter and purify air, as earth filters and purifies sewage, is a matter which has not yet been investigated. He is of opinion that if we leave our walls alone and do not block them up with paint and paper we have for ordinary house walls in ordinary weather two cubic feet of air going through every square foot of wall in the course of an hour and this is probably enough to ensure the sufficient oxidation, if it goes on at all, of the materials of which the wall is made. Further, the porosity of the walls must also materially assist in the ventilation of the room which they surround. It was M. Somesco's delight to think that even when the doors and windows of his house were shut the pure air of his garden was blown upon him through the porous walls.

M. Somesco's house can of course only be taken as an experiment. The principles of which it is a practical application have not yet been adopted by the public. Already a private house is in the course of construction at Beauvais built on the same principles and they are also to be applied to the military hospital at Madrid. To sum up these new theories and methods, the teachings of M. Trélat, the practical experiments of M. Somesco, suggest that the natural porosity of our walls, especially the outer walls, should not be destroyed. These walls should be decorated, not with paper and paint, but with porous non-conducting substances, such as woollen drapery. The outer walls on the side nearest to the inner surface should be hollowed throughout, thus constituting a double wall with a space of about four inches between the two walls. A heating contrivance of whatever description may be found most expedient or economical should be placed in the basement of the house. A warm air chamber or shaft travelling round the base of the outer walls should supply to the hollow in the walls air taken from the outside and warmed at the point of admission into the wall to a temperature of from 100° to 120° F. This should maintain the temperature of the inner wall at from 80° to 90° F. Then, he considers, the walls will radiate sufficient heat through the rooms to enable the inhabitants to constantly open the doors and windows and to breathe cold, fresh, outer air without inconvenience. As a rule fires will be unnecessary, dampness will be completely banished from the house, and to maintain some moisture in the air it would, he thinks, be expedient to decorate the house with numerous evergreen plants. The inhabitants should then be able to benefit by unlimited ventilation and could breathe pure, cold and fresh air coming upon them directly from the outside.

THE LANCET

Special Analytical Commission

ON

ARSENICAL WALL-PAPERS.

SEVERAL authenticated cases of chronic arsenical poisoning by wall-papers as well as by such domestic articles as chintzes, cretonnes, table-cloths, lamp-shades, tapers, &c., are to be found in the columns of THE LANCET from the year 1860 to within a few years ago. Consequent on the publication of these cases the profession and the public have been vigorously warned again and again in our columns to exercise the utmost caution in the choice of a paper intended for decorative purposes and the attention of manufacturers has repeatedly been called to the fact that they were responsible in some measure for the mischievous and oftentimes alarming symptoms arising from the presence of arsenic employed in the preparation of the paper. Specimens of paper analysed in and about the years 1870 and 1880 were found to contain, in some instances, as much as from nineteen grains to forty-five grains, or even more, of arsenious acid to the square yard. It will be remembered that arsenic entered very definitely into the composition of certain colour compounds then only available for the purpose. Thus Scheele's green, which was at that time largely employed, is a definite compound of arsenic with copper known to chemists as copper arsenite $CuHAsO_3$. Schweinfurth green, again, or aceto-arsenite of copper, is another example of a definite compound containing arsenic. Out of sixty papers analysed in 1877 only ten, as is recorded in THE LANCET, could be regarded as harmless in this respect; but in spite of many warnings impressed by precept and experience arsenical pigments continued to be used down to 1888 to 1889. Since this time, however, less has been heard of cases of chronic arsenical poisoning referable to this cause, although instances are forthcoming now and again. In the interest of public health we have been led, therefore, to reinvestigate this subject, to ascertain whether any improvement in the manufacture of papers has since been effected. As already pointed out, green papers have in past years most commonly contained arsenic, because with copper it forms the beautiful but dangerous pigment, Scheele's green. According to the results of a recent examination we have made, we found that in no case had this pigment been used; indeed we are inclined to the belief that the public may be fairly confident that papers of a green pattern generally contain no arsenic at all, as out of several samples examined no evidence of its presence was gained. Prejudice against a design in green rose high for reasons already cited and in the minds of many green is still the colour to avoid and the one most to be suspected. But on this very account alone manufacturers have studied this colour more than any other, with the idea of substituting for it a material equally effective and elegant, but free from any substance which could be regarded as injurious. This view is confirmed by the fact that excellent green pigments are now made without arsenic entering in any way into their composition. But, on the other hand, there may frequently

be traced small and variable quantities of arsenic in many of the dyes used in the staining process—as, for example, the anilines, for the manufacture of which arsenic is often employed. As a matter of fact, we have detected arsenic in minute quantity in lilac, marone and blue designs, probably not knowingly used, but nevertheless contained in the dye, which is doubtless bought by the paper-maker as a non-arsenical pigment. On this subject we have been furnished with some interesting information by Messrs. William Woollams and Co., who, as is well known, have for several years paid particular attention to the manufacture of absolutely non-arsenical papers. This firm assured us that although various manufacturers supply patterns guaranteed free from arsenic, yet on examination many of them are found to contain minute quantities of the poisonous metal. This is not wilfully introduced into the paper, but is contained in the dye, for the production of which arsenic is frequently employed. We have examined several papers so guaranteed and on the whole the results were fairly satisfactory. Where arsenic was found it was only in minute quantity, according to the exceedingly delicate test hereafter to be described. Other papers were obtained from the collections of various manufacturers bearing no guarantee at all, and arsenic in minute amount was invariably detected in these. Samples of papers were also secured, as varied in design and as elegant in pattern as the foregoing, but which were guaranteed to be coloured with *strictly* non-arsenical pigments. On examination such was actually found to be the case, no indication whatever of the presence of arsenic being afforded when the most searching test was applied. There is reason to believe that however intimately the steps, both in the process of the preparation of the paper and the colouring material, are known, it would not be strictly safe to guarantee them until the finished papers have passed this test. In fact, this is a precaution adopted by the firm already alluded to, who find that to be quite certain, although the paper is of their own manufacture, they must minutely and accurately test all those finished papers which are afterwards guaranteed to be absolutely non-arsenical. In the majority of instances of poisoning through the medium of wall-papers the quantity of arsenic found has generally been sufficient to establish with little doubt the *fons et origo mali*, but we do not think now—and we note it with considerable satisfaction, as THE LANCET in past years has not failed to condemn the use of arsenic in the pigment of wall-papers or to point out the dangers likely to arise from their use—that respectable manufacturers use arsenic at all, at least knowingly or willingly. Turning to the numerous analyses we have recently made, some papers were found to contain arsenic in varying minute quantity and others to contain absolutely none. The question therefore arises: Is the presence of arsenic, however slight the amount, to be tolerated at all? The test we have relied upon, and which is according to our experience the best and most delicate, is a modification of that known as Marsh's test. It consists in generating hydrogen from a mixture of perfectly pure sulphuric acid, water and zinc in contact with the suspected substance in a flask provided with a long funnel and delivery tube. The delivery tube is fitted with a drying tube containing calcium chloride and to this is attached the depositing tube, which is a glass tube six inches long and of one-eighth of an inch calibre. The purity of the materials having been ascertained by a blank experiment, a piece of the paper five inches square, cut up into small pieces, is introduced into the flask and a steady evolution of hydrogen gas is allowed to proceed until the whole apparatus is filled with gas. On now heating the depositing tube in the middle with a spirit lamp a metallic arsenical mirror varying in intensity as regards lustre and colour will be produced if arsenic is present.

Proceeding in this way with a score or so of samples and operating on five square inches of paper, deposits were obtained varying from a light, almost imperceptible brown to a blackish, but not opaque, lustrous stain. Now in experiments with a very weak standard solution of arsenious acid we were able to detect very readily $\frac{1}{1000}$ of a grain of arsenious acid; and this amount, small though it be, gave a distinct black lustrous, though hardly opaque, deposit. Probably therefore not more and considerably less than $\frac{1}{1000}$ of a grain of As_2O_3 occurred in the quantity of paper experimented with above, as no more intense deposit than that yielded by this amount was in any single instance obtained. Is this quantity of arsenic in wall-paper likely to be injurious? One can hardly think so; but at any rate, if any doubt existed at all, and to be quite positive (for there is no reason why the quantity of arsenic should not be subject to serious variation), wall-papers of excellent design can be secured which stand this test perfectly, and inasmuch as the delicacy of the test is such that $\frac{1}{10000}$ of a grain even produces a distinct stain, such paper may be confidently regarded as absolutely non-arsenical. A paper yielding when tested under the conditions described above, a distinct black and lustrous deposit which is sufficient to cut off at any point a black line on a white ground, technically known as thick rule (eight to pica), would be condemned according to a rule fixed by many eminent authorities and perhaps on the whole it is a useful and justifiable standard. Very great care has to be exercised in carrying out this test, and on no account should it be performed until the absolute purity of the materials (zinc, acid and the glass of the apparatus) has been determined.

To sum up, one interpretation would appear to lend itself to the foregoing results. Owing doubtless to the action of the medical profession in unanimously condemning the practice of employing arsenical colours in wall-papers—an action in which THE LANCET took no small part—wall-papers loaded with arsenical pigment have apparently become a thing of the past, for amongst many specimens obtained by us from several respectable makers, those containing any arsenic at all contained it in almost imperceptible quantity, while others gave no response to a test which serves to detect the one fifty-thousandth part of a grain. Notwithstanding all this, it is necessary that a careful examination of wall-papers selected haphazard should from time to time be made in order that this satisfactory state of things may be maintained.

DANGEROUS DIABETIC FLOURS.

IN order to ascertain by chemical analysis whether a flour is suitable for the use of diabetic patients a weighed quantity of the flour is taken and the carbo-hydrates converted into glucose by treating it with sulphuric acid in an inverted condenser for a few hours and then estimating the amount of glucose by the alkaline copper test. This process with care gives absolutely reliable evidence.

Some of the foods which have been advertised of late and especially American foods claiming to be "mainly free from starch," have, according to this test, been shown to be absolutely pernicious as diabetic foods. Our attention was directed to the fact that one specimen in particular which was advertised in the columns of THE LANCET had no claim whatever to the qualities ascribed to it, and we therefore submitted samples to analysis, and have ascertained that the so-called gluten flour contains over 66·60 per cent. of starch and the other, the so-called diabetic flour, over 62·00 per cent. of starch. That is to say, the quantity of glucose yielded on conversion or acid digestion is not a whit less than that similarly yielded by normal wheaten flour. The tests were performed again and again with varying amounts of flour, so that there cannot be the least doubt about the results.

One firm—that of Messrs. Farwell and Rhines—invited medical men to send for samples of these flours free of charge. The microscope showed them to contain wheat-flour granules in abundance. The preparations are made so as to simulate the appearance of gluten flour, for they are prepared in a fine granular form. A pamphlet is issued to the members of the medical profession and the preparations are even claimed to be recommended by the profession. Patients are under the impression that they are taking the proper diabetic food when in reality as bad a food for the disease as ordinary wheaten bread is being consumed. We have evidence before us of many instances of positive harm arising endangering the life and health of diabetic patients to an enormous extent. The effect of such foods is that patients who ought to have had little or no sugar in their urine according to the regimen adopted when under treatment have had large amounts of sugar accompanied by severe and marked symptoms of the disease. They have asserted that they have been taking the restricted diet, which has been absolutely contradicted by the state of the urine and their symptoms, and upon inquiry and investigation it has been found that they have been making use of the American flour under the

impression that it consisted of the proper gluten flour as supplied by the approved gluten food makers in London.

Whatever view of the nature of diabetes is held—and there is by no means unanimity on the point,—there can be no question at all as to the desirability of reducing the amount of carbohydrate food in the diabetic to the fullest possible extent. The doctrine, for instance, of faulty action of the liver, that of hyperglycogenesis and the like, is necessarily bound up with the amount of glycogen-forming material that finds its way into the portal circulation. Or if, as Dr. Pavy holds, the essence of the disease is due to defective assimilation of the carbo-hydrate element of food, the argument for restriction of diet is even more obvious. For on this doctrine the carbo-hydrate principles of food, instead of passing in their proper direction towards utilisation or consumption and disappearance in the system, in diabetes, through defect of their chemical transformation, simply run—through the influence of ferments with which they come in contact—into sugar, which, reaching the general circulation, will pass off by osmosis into the urine. It does not signify in the slightest degree what carbo-hydrate is given, the result will be the same. In giving carbo-hydrate food in this disease, not only is the food perfectly useless to the patient because it cannot be properly assimilated, but it produces an absolutely pernicious effect by reaching the general circulation and inducing at once an abnormal condition. In diabetes the blood in the general circulation contains sugar quite in proportion to the amount of the carbohydrate which has been ingested with the food and as the food of the general circulation becomes charged with sugar, so in proportion will be the deviation from the normal state, and in proportion to the deviation from the natural state of the food, so will be the failure in health and the symptoms of the disease. Of course this is true only up to a certain point, for under some conditions the dietetic restrictions are neither well borne nor efficient, and the physician may feel compelled to remove them in the interest of his patient; but such cases are exceptional.

THE REPORT OF THE PROCEEDINGS OF THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

"A FURTHER ACCOUNT of the Proceedings of the Association of Fellows of the Royal College of Surgeons of England from March, 1890, to June, 1892," has, as we stated last week, been issued and sent to the Fellows of the College. During the period specified the Committee of the Association has been actively engaged in carrying out the policy approved by the Association for advancing the interests of the Fellows of the College. "The Committee has held twelve meetings, there have been three general meetings of the Association, eight or nine meetings of subcommittees appointed for various purposes, and a deputation from the Association has held a conference with a committee of the Council of the College of Surgeons with very satisfactory results." The main efforts of the Committee have been concentrated on endeavouring to secure for the Fellows the privilege of meeting within the walls of the College and of being convened separately from the Members to deliberate upon the affairs of the College. The proposals of the Committee expressed through a deputation were at first met with the statement that the solicitor of the College had given it as his opinion that under the existing charters this course of action would be illegal, but in the end the Council of the College submitted the matter to the Attorney-General and Mr. John R. Paget. The opinion given, which was dated Dec. 22nd, 1890, did not sustain that of the solicitor of the College, the first sentence affirming that "no legal objection exists which prevents the Council of the College granting the use of the College premises to either the Fellows or the Members for a meeting for purely consultative purposes." "In view," however, "of the pending litigation before Mr. Justice Stirling," it was considered unwise "to permit a meeting of any section of the College except in the cases expressly provided by the Charter and By-laws." In accordance with this opinion, the Council of the College resolved not to "take any action in reference to separate meetings of Fellows until the decision of the action Steele *v.* Savory." More than a year elapsed before the action was settled in favour of the defendants and soon afterwards the Council appointed a committee to consider what further advantages could be extended to the Fellows. The report of the Committee, which was adopted by the Council, recommended that meetings of Fellows apart from the Members should be held when the Council deemed it desirable, with or without a requisition from the Fellows and the Fellows have now been invited to meet the Council at 5 P.M. on the day of the ensuing election on July 7th. This result is in large part due to the Committee of the Association of Fellows. On more than one occasion it has been necessary for the Committee to formulate and to bring forward at general meetings resolutions expressing regret that the Council of the College had not consulted the Fellows before taking action, as, for instance, in regard to the scheme for the reconstitution of the University of London and the scheme for the fulfilment of the five years' curriculum. The proposals of the Committee of the Association for simplifying and improving the method of distribution and reception of voting papers resulted, as opinion was equally divided in the Council of the College, in the appointment of a committee to consider the existing rules. The necessity for altering and amending the by-laws, in order to effect the object in view, turned the scale against the proposals, but probably at no distant date these proposals may be accepted and the by-laws altered. The request of the Committee of the Association that the Council would grant to the Fellows a common room in the College has resulted in the adoption by the Council of a resolution to the effect "That the room adjoining the secretary's office now forming a part of the library not used by readers be furnished as a common room for the use of the Fellows and Members of the College." Legal opinion was adverse to the appropriation of a room in the College for the exclusive use of a section of the Members of the College. Into the other subjects dealt with in the report it is not necessary to enter. The cardinal fact remains that owing, we may hope, to our own repeated representations and to the perseverance of the Committee of the Association steps have been taken by the Council of the College to establish more satisfactory and intimate relations between the Fellows of the College and the Council. A new departure has been made and it rests with the Fellows of the College generally to improve their position by united action at the meetings of Fellows which will soon be inaugurated. A large accession of numbers to the ranks of the Association and the success of its candidates at the election at the College would speedily be followed by further concessions, which would place the Fellows of the Royal College of Surgeons in a similar position to that enjoyed by the Fellows in the other professional colleges in the United Kingdom.

IMPROVED FACILITIES FOR CONTINENTAL TRAVELLING.

THE DIEPPE ROUTE.

THE increasing number of travellers between England and the Continent renders any improvement that can be effected in the Channel service a question of considerable importance. Progress has been achieved by leaps and bounds. For instance, if we take the three main routes—Dover and Calais, Boulogne and Folkestone, Newhaven and Dieppe—we find that the number of passengers between England and the Continent by these three routes amounted to 347,923 in 1884. During the year of the great Paris Exhibition the number of passengers was nearly double and attained the extraordinary high figure of 642,465 for the three routes. In 1890 there were 450,779 and in 1891 454,538 passengers. These passengers travelled during the Exhibition year in the proportion of 53·90 per cent. by the Calais route, 17·42 per cent. by the Boulogne route and 28·68 per cent. by the Dieppe route. This latter route found special favour during the Exhibition year and its percentage rose much above the normal. In the previous year (1888) only 17·54 per cent. of passengers went by Dieppe. Those who, for special and temporary reasons, went by Dieppe during the Exhibition year were evidently favourably impressed, for the percentage of passengers going by that route has steadily increased ever since. Thus the percentage of passengers by Dieppe was equal to 21·55 in 1890 and

23·03 in 1891. The statistics of continental travel clearly establish that the Calais and Dieppe routes are becoming more and more appreciated every year. The Calais route will always enjoy the largest patronage because, apart from all other considerations, it involves the shortest sea journey. The new steamers have now crossed from the Calais pier head to the Dover pier head in one hour and ten minutes. Formerly the passage from Newhaven to Dieppe took as long as seven hours in crossing and has sometimes occupied nine hours. The ships were small and narrow and those passengers who were subject to sea-sickness suffered terribly. The route therefore acquired the reputation of being only suited to good sailors and certainly invalids would scarcely venture upon such a journey. Nor were the ports of Newhaven and Dieppe all that could be desired. Consequently in very bad weather there were delays in the departure of ships. Now, however, both ports have been considerably improved; a magnificent breakwater has been built at Newhaven which effectually shelters the entrance to the port from south-westerly winds while the cliffs close by, at Seaford, break the force of easterly winds. At Dieppe dredging operations, carried out on an extensive scale, render the entrance easy even at low tide.

Of more importance than this consideration is the great improvement effected in the character of the ships now employed on the service. In 1882 two new ships were put on the line. These were called the *Brittany* and *Normandy*. They measure in length 231 feet and their registered tonnage is 240, which is equal to about 520 gross tonnage. These ships have a shallow draft, 7 ft. 6 in., and can carry 578 passengers. In 1888 two ships of a larger model were added to the fleet. These are the *Paris* and the *Rouen*. Their length is 250 feet, their draft 8ft. 2in.; their registered tonnage is 326, which is equal to about 700 gross tonnage and they can carry 706 passengers. All these four ships are fitted up in a luxurious manner. They have deck cabins and an upper deck which constitutes a very favourite lounge for passengers. But what is of greater value than all such qualities is the fact that these ships effect the passage in four hours. Indeed, when the season is favourable, and more particularly in the months of July, August, and September, the passage is often accomplished in three hours and a half. Another ship was added to the line last year. This was the *Seine*, and she differed from the other ships inasmuch as she possessed double screw propellers instead of paddle wheels. The *Seine* has effected the passage in three hours and eleven minutes. But nevertheless the venture cannot be spoken of as a success. The speed is unequalled, but in consequence of the shallow harbours the draught is slight and is insufficient to secure steadiness. Therefore there have been so many complaints that the *Seine* was sent into dock for structural alterations with a view of preventing the excessive rolling of the vessel. These new ships have been constructed in such a manner as to secure notable sanitary advantages. Care has been taken to warm and to ventilate the cabins. Under the seats and all round each of the cabins there is a copper coil which during cold weather receives the steam from the engine. Underneath the cabin table are openings through which air, brought down from the deck, enters. All round the ceiling of the cabin, close under the deck, is an exhaust shaft which communicates with the funnel of the steamer. Openings about two inches long and a quarter of an inch wide at a distance of about a quarter of an inch from each other are made by perforating the metallic sides of the exhaust shaft. Thus, all round the cabin the air finds a natural exit which is stimulated by the suction produced in the funnels of the steamer. We noted with pleasure that no difference whatever is made, in respect to warming and ventilation, between the first class and second class cabins. In like manner the closets and the lavatories are the same for both classes. The constructors of these ships have evidently recognised that it is as necessary to observe the laws of health for the poor as for the rich and as much pains are taken to give a plentiful supply of air to the second class as to the first class passengers.

The Dieppe route is now able to offer accommodation as commodious as can be found on any channel steamer. Of the three principal routes to the Continent, the Dieppe has the longest sea and the shortest railway journey. The journey from London to Newhaven is effected under two hours and that from Dieppe to Paris under four hours. The scenery on both sides is undoubtedly the prettiest that exists on any of the routes from London to Paris. On the English side the passenger, by the payment of one shilling over and above the first class fare, can enjoy the luxury of travelling in a Pulman car. The railway officials are prepared to tender every assistance and facility to invalids travelling by this line. A sort of hammock has been made which can be affixed to the roof of the railway carriage in such a manner that a patient may be carried in his bed from London to the steamer. Finally we should not omit to mention that the ladies' cabins, both in the first and the second class, are of much larger dimensions than were considered necessary in the older steamers. Indeed the ladies' cabin used to be so small and so badly ventilated that many and bitter complaints were made. It is satisfactory to note that the grievances and the hardships attending the Channel passage are rapidly disappearing. Delicate persons need no longer entertain the fears that in the past were quite justifiable. The journey can now be accomplished with so much ease, comfort and rapidity that the apprehensions formerly entertained, when patients were recommended to go abroad, do not apply to the present improved services.

THE TWENTY-FIRST GERMAN SURGICAL CONGRESS.

EARLY on June 9th the members of the Surgical Congress inspected the hospital at Moabit under the guidance of Professor Sonnenburg. At ten the second meeting of the Congress began in the Langenbeck House. Dr. Güterbock of Berlin showed a case of Empyema. The patient was a man in the prime of life. In the right side of the breast, from the armpit to the girdle, a deep depression was visible, with the operation wound, not yet quite healed, in the middle. The loss of ribs and of a large portion of the lung and the adjacent parts, however, had not in the least impaired the state of the patient's nutrition or the use of the right arm and his appearance was that of a man in excellent health. A considerable number of cases of the removal of tumours from the brain were then discussed and Czerny of Heidelberg expressed the opinion that trephining has a great future as a means of regulating intercranial pressure in mental disease. Pfeilschneider of Schönebeck showed several persons treated by him for fracture or comminution by suture, but this method was condemned by Bergmann and others and only partly defended by Trendelenburg. Küster of Marburg showed a boy in whom a ureter had been successfully resected for stenosis. Schlange of Berlin exhibited several persons who had been cured of actinomycosis. Eyselsberg of Vienna reported a case of this disease which had been cured by injecting tuberculin. Grawitz of Greifswald spoke on the changes of tissues in inflammation and their biological ignificance and König on the treatment of tuberculosis of the bones and joints, on which subject he is about to publish a book. In the course of the same sitting König proposed the erection in the Langenbeck House of a marble bust of Gustav Simon, who may be regarded as the real originator of the German Surgical Society, for it was he who persuaded the reluctant Langenbeck to found it. After the sitting the members of the Congress dined together in the Central Hotel.

On the 10th some of the members inspected the municipal Hospital am Urban under the guidance of Dr. Körte, others the Emperor and Empress Frederick Hospital under the guidance of Dr. Baginsky and Prof. Gluck, while others were present at a series of demonstrations with the projection microscope given by Dr. Barth of Marburg and Dr. Arthur Hartmann of Berlin. Hartmann's demonstrations had reference to the structure of the skull and attracted great attention. The Congress met at ten. Thiem of Kottbus showed a woman in whom the temporarily applied artificial anus had been reclosed after the healing of a syphilitic ulceration and stricture of the rectum. Trendelenburg followed with a case of flat-foot cured by straightening the foot after chiselling the bones of the leg just above the ankle. On the fact observed by him, that flat feet sweat excessively, Trendelenburg bases the theory that the morbid secretion of sweat is due to a condition of nervous irritation and that perhaps in flat-foot there is abnormal pressure on the nervus plantaris. Professor Albert Köhler showed a young woman who had suffered from stenosis of the pylorus. Before the operation she weighed less than 54 lb

The pylorus was cut out and a new one formed out of the adjacent parts. Half a year after the operation she weighed 84 lb. and now, though convalescence was interrupted by a surfeit followed by severe indigestion, she weighs over 127 lb. The operation-scar in the linea alba is quite firm and solid. The same surgeon showed several cases of amputation in which the patella had been grafted on to the chiselled end of the femur in order to round off the stump better. After Haassler of Halle had shown and commented on a case of gastro-enterotomy, Professor Krause of Altona showed a woman whom he had cured of very severe faceache and headache by excising the fifth cranial nerve. Madelung of Rostock reported a similar operation performed by him—viz., the extirpation of the third branch of the same nerve. Seuger of Krefeld showed a woman with a burn the size of one's hand on her breast, which had baffled all attempts at cure, owing probably to self-injury on the patient's part. Thiersch related the case of a woman who had frustrated all the efforts of her doctor by always cauterising a skin-wound by means of a piece of caustic soda kept hidden in her dress. Bardenheuer of Cologne reported cases of resection of the upper and lower jaw. A cure of leprosy was also reported. The patient went to Cramer of Wiesbaden, who examined the nerves of the upper arm, and found them softened inside, with leprosy bacilli in them. He removed the smallest of the diseased nerves, split the other two lengthwise, and scraped all the matter out of them. The wound healed and the man was observed for two years. The arm was restored to use, and there was no relapse. After that no more was heard of him but that he had returned to Siam, where he had contracted the disease. Neuber of Kiel spoke on the aseptic treatment of wounds. By certain modifications of the aseptic method, one of which is the keeping of the walls of the operation room moist, he hopes to render the draining of operation wounds superfluous. His main aim is to prevent wound infection from the air of the operation room, which is especially to be feared when operations are performed before many spectators. Schleich of Berlin recommended the cleansing of the field of operation and the surgeon's hands with soap mixed with marble-powder and wax-paste. Arthur Hartmann exhibited his bone preparations and showed a dragoon who had been thrown on his head and dragged for some distance by his horse in the French war. Some years later he began to suffer from headache, which gradually assumed a very threatening form. He was sent from one doctor to another without result, till he came to Hartmann, who discovered suppuration in the frontal sinus. The cavity was opened, the pus removed, and the man permanently relieved.

The afternoon sitting began with a discussion of König's speech of the day before on the treatment of tuberculosis of the bones and joints. Bardeleben reported several cases of resection of the hip-joint in which the restoration of the use of the leg had been extremely successful. One of the patients, a boy, had raced with dogs and beat them. Schleich pointed to the fact that tuberculosis very seldom occurs in fatty organs and recommended the application of fats to tuberculous parts. Schuchardt of Berlin maintained that tuberculosis is transmitted by sexual intercourse. Gurlt then reported on the collective investigation set on foot by the society with a view to getting statistics of narcotisation. In the first year of the investigation 24,625 narcoses were reported, whereas last year, which was the second, 84,605, performed by sixty-two observers, were reported. Of the former number six cases resulted in death, of the latter thirty-three, but it is certain that many of these deaths were not due to the narcotic. In the two years in question the number of cases reported in which chloroform was used was 94,123, in thirty-six of which death ensued—i.e., in one out of 2614. The number of ether cases was 8431, in only one of which death ensued. In 2891 cases mixtures of chloroform and ether were applied and there was one death; in 1380 a mixture of ether and alcohol without deaths; in 2179 bromide of ethyl without deaths; and in 219 the new narcotic called pental with one death. It is pretty certain, however, that the last-mentioned death and that after the use of ether were not due to the narcotics. Among the chloroform cases there were 836 in which Pictet's crystallised ice-chloroform was used. This form of chloroform has a good record, as has also pental, which causes narcosis very rapidly and does not produce several unpleasant by-effects which chloroform does. Ether too has proved a first-rate narcotic. Bromide of ethyl produces only narcosis of short duration up to about three minutes and is therefore most used in dentistry. It is inapplicable in cases in which laxity of the muscles is necessary, for it does not produce this effect. Bruns proposed that the investigation should be continued for another year on the ground that the material already collected is too scanty. This proposal was carried. König was elected chairman for next year's Congress and accepted the office.

Berlin, June 21st.

HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

AT a meeting, held in the clinical theatre of the National Hospital for the Paralysed and Epileptic on Thursday last, the Right Hon. the Earl of Strafford occupying the chair, Sir James Paget delivered an address in the course of which he said that there were two reasons why he had acceded to the request to speak at the opening of this theatre. He regarded it as a considerable honour to be able to take part in a work of so good a character and it had always been a great happiness to him to know that on the staff of this hospital were numerous and surgeons whom he was happy to call his friends and who were amongst the best promoters of the very highest knowledge in pathology, medicine and surgery and it would be a great happiness to him if he could help the progress of the hospital by speaking of the great good which he had accomplished. He knew of no hospital that had so perfectly fulfilled its purpose as this hospital, which had been associated with charity of the most perfect and hearty kind and with that there had been, as the chairman had pointed out, a constant carrying on of research and teaching, for in the great progress that had been made in the knowledge of the diseases of the nervous system no institution had contributed so largely, both by the opportunities for work which it had afforded and by the kind of work which had been accomplished through its agency. Never a year had passed since the foundation of the hospital without witnessing some distinct and definite increase in the knowledge of medicine and surgery in relation to the brain and the nervous system. If he had a right to speak at all in a place like that it was not for the direct promotion of charity—that could be done more eloquently by others—but he might speak of the way in which charity was dependent for its increase and perfection on the advancement of scientific knowledge. And in relation to that, if the operations now proposed and carried out by Mr. Horsley had been attempted before the foundation of this hospital, it would have been suggested that the brain of the proposer would be the first to require the operation. It was due to scientific inquiry carried on along two distinct lines—lines which seemed in no relation to one another and never likely to converge; and yet these lines had now met and had resulted in the saving of more lives than could now be told. The progress of the knowledge of the nervous system was due to continual inquiry both by scientific research and experiment and by continual clinical observation in the wards, especially in the wards of a hospital such as the National Hospital, in which there were collected large numbers of the rarest cases, such as no private practitioner or general hospital possessed, so that the method of scientific experimental inquiry and scientific medical observation were coöperating, each testing the other and each suggesting to the other what line of inquiry should be followed up in the respective fields of observation. By those means there had been added, year by year, more accurate anatomical and microscopical facts; electricity had been applied more scientifically, and the study of the nervous system had continued all that time, and with all this there had been a constant mutual discussion, each factor testing the value of the other's observation. After alluding to the progress which had been made in neurological science during the last thirty or forty years, Sir James Paget concluded by invoking the fullest blessings upon the hospital and upon the work in which it is engaged, after which, on the motion of the chairman, seconded by Mr. Victor Horsley, a vote of thanks was passed to Sir James Paget; and on the motion of Dr. Buzzard, seconded by the Right Hon. H. Ryder, a similar vote of thanks was accorded to the chairman.

METROPOLITAN HOSPITAL SUNDAY FUND, 1892.

In addition to the returns published in our last issue giving the amounts collected in aid of the Metropolitan Hospital Sunday Fund, we have received notification of the following amounts. The returns are, of course, as yet incomplete.

	£	s.	d.
St. Michael's, Chester-square (Rev. Canon Fleming, B.D.), with additions	1208	15	3
St. Jude's, South Kensington (Rev. Prebendary E. Eardley-Wilmot)	1004	10	9
Christ Church, Lancaster Gate (Rev. J. C. Ridgeway)	1000	17	4
Sir Savile Crossley, Bart., M.P. (a further)	1000	0	0
All Saints, Ennismore Gardens (Rev. Ravenscroft Stewart)	440	14	0
St. Mark's, Hamilton-terrace (Rev. Canon Duckworth, D.D.)	236	2	1
St. Matthew's, Bayswater (Rev. J. Fixmer Sullivan)	160	11	6
All Souls, Langham-place (Rev. W. Hay Chapman)	132	16	2
St. Saviour's, Chelsea (Rev. L. C. Walford)	121	18	2
St. Thomas's, Portman-square (Rev. R. P. Thompson)	117	14	4
The Theistic Church (Rev. C. Voysey)	107	0	0
Christ Church, Hampstead (Rev. Geo. F. Head)	186	5	7
Grosvenor Chapel, South Audley-street (Rev. W. Foster Elliott)	75	0	0
Earl of Feversham (a further)	50	0	0
Holy Trinity, Marylebone (Rev. A. T. Robinson)	62	4	4
St. Jude's, East Brixton (Rev. R. B. Ransford)	64	15	0
St. Paul's, Wimbledon Park (Rev. E. C. Brace)	59	19	1
St. Paul's, Forest Hill (Rev. F. Jones, B.D.)	105	6	3
Christ Church, Mayfair (Rev. H. Rowsell)	103	8	1
Rosslyn Hill Unitarian Church (Rev. Brooke Herford, D.D.)	108	5	3
St. Mary Abbott's Parish Church, Kensington, Mission Hall, and Open Air Collection	363	7	7
St. Paul's (Kensington), Vicarage Gardens (Rev. the Hon. E. Carr Glyn)	80	6	6
Christ Church, Victoria-road, Kensington	82	13	4
St. James's, Holloway (Rev. E. A. Stuart)	86	19	0
Holy Trinity Parish Church, Sydenham (Rev. H. Stevens)	194	0	0
St. Barnabas's, Kensington (Rev. Prebendary Thornton, D.D.)	140	14	8
St. James's, Kidbrook (Rev. J. C. Leeke)	108	8	4
St. Luke's, Chelsea (Rev. Gerald Blount)	45	10	0
St. Mark's, Regent's-park (Rev. W. J. Sparrow-Simpson)	25	3	3
St. Stephen's, Ealing (Rev. B. S. Tupholme, D.D.)	91	10	4
St. Paul's, South Hampstead (Rev. J. W. Bennett)	111	3	3
Brixton Wesleyan Circuit (Rev. Enoch Salt)	95	14	10
St. Luke's, Nightingale-lane (Rev. Canon Erskine Clarke)	41	2	11
St. Paul's, East Molesey (Rev. G. E. Tatham)	28	6	4
Reid's Brewery Company (a further)	200	0	0
Bloomsbury Baptist Chapel and Mission (Rev. James Bailles)	44	10	9
Clapham Parish Church (Rev. C. P. Greene)	78	8	8
Church of the Ascension, Blackheath (Rev. W. A. Moberley)	37	2	11
St. Augustine's, Queen's-gate (Rev. R. R. Chope)	94	0	0
Quebec Chapel (Rev. E. B. Ottley)	184	0	7
Christ Church, East Greenwich (Rev. Canon Baynes)	40	0	0
Hendon Churches (Rev. N. W. J. Mant)	46	12	9
Finchley Parish Church (Rev. S. Bardsley)	29	1	0
St. Katharine, Royal Collegiate Chapel (Rev. The Master)	33	1	0
St. Augustine, Kilburn (Rev. R. C. Kirkpatrick)	58	12	8
Regent's Park Baptist Chapel (Rev. F. B. Meyer, B.A.)	58	19	10
Holy Trinity, Beckenham (Rev. S. Whitfield Daukes)	35	13	5
Hayes (Kent) Parish Church (Rev. G. Clowes)	26	10	11
St. Mary Magdalene, Peckham (Rev. James Seaver)	22	5	0
Christ Church, Marylebone (Rev. E. Venables)	33	5	7
St. Paul, Upper Norwood, morning collection (Rev. W. H. Graham)	101	1	3
W. T. Blandford, Esq. (a further)	20	0	0
Mrs. Alexander Black	20	0	0
Roehampton Parish Church (Rev. R. Carrington)	52	17	8
St. James's, Piccadilly (Rev. Prebendary Kempe)	105	9	6
St. Gabriel's, Pimlico, and All Saints' (Rev. J. H. J. Ellison)	88	2	11
St. Saviour's, Poplar (Rev. J. Beardall)	26	5	0
St. Saviour's, Southwark (Rev. W. Thompson, D.D.)	21	10	10
Thames Ditton Parish Church (Rev. E. H. Rogers)	24	1	6
Tooting Graveney Parish Church (Rev. E. H. Morton)	22	0	0
Highgate Presbyterian Church (Rev. Alex. Ramsay, B.D.)	27	14	8
Church of the Annunciation, Chislehurst (Rev. H. Lloyd Russell)	37	4	8
St. John's, Upper Norwood (Rev. W. F. La Trobe-Bateman)	32	13	9
Camden-road Presbyterian Church (Rev. R. M. Thornton, B.A.)	26	7	10
Christ Church (Reformed Episcopal), Harlesden (Rev. J. Anderson)	25	16	2
St. Mark's, Tollington-park (Rev. Canon Hurst)	24	13	6
Islington Parish Church (Rev. W. P. Barlow, B.D.)	20	11	6
St. Peter's, Norbiton (Rev. J. Rooker)	20	14	1
St. Peter's, Dulwich-common (Rev. H. J. Pulley)	52	0	0
St. John's at Hackney (Rev. F. E. Gardiner)	50	5	8
Chigwell Parish Church (Rev. T. Marsden)	23	1	3
St. Stephen's, South Lambeth (Rev. J. S. Pratt)	20	8	6
St. George's, Bickley (Rev. R. Wood)	56	16	0
Chislehurst Wesleyan Chapel (Rev. J. Clarke)	24	0	3
Christ Church, Hornsey (Rev. C. W. Edmonstone)	64	15	1
St. Dominic's, Haverstock-hill (Very Rev. John Procter)	25	2	0
Horbury Congregational Church, Notting-hill (Rev. H. Hazell)	24	14	7
Finsbury Park Wesleyan Church (Rev. J. H. Grubb)	29	4	5
St. John the Evangelist's, Angell Town (Rev. Lancelot L. Sharpe, B.D.)	29	14	11
Chipping Barnet Parish and District Churches (Rev. D. W. Barrett)	48	7	9
St. Paul's, Camden-square (Rev. G. Tiley)	53	8	3
The Theistic Church (Rev. C. Voysey), with additions	110	16	6
Westminster Abbey (Very Rev. Dean Bradley), with additions	185	10	4
All Saints, Ennismore gardens (Rev. R. Stewart)	470	14	0
St. Mark's, Hamilton-terrace (Rev. Canon Duckworth), with additions	239	2	1
St. Stephen's, South Dulwich (Rev. J. Meek Clark)	151	2	4
Portman Chapel, Baker-street (Rev. Marmaduke Washington)	134	3	1
Holy Trinity, Chelsea (Rev. Prebendary Eyton)	239	1	10
St. George's, Hanover-square (Rev. David Anderson)	143	7	8
Christ Church, Streatham-hill (Rev. C. S. Nicholl)	106	10	0
St. Mary's, Kilburn (Rev. J. Robertson)	102	13	7
St. Columba's, Pont-street (Rev. Donald McLeod, D.D.)	102	12	10
St. Philip's, Kensington (Rev. W. Smale)	107	2	4
All Saints, Martabet-street (Rev. W. A. Whitworth)	68	16	7
Stamford-hill Congregational Church (Rev. J. M. Gibbon)	95	4	4
Christ Church, Highbury (Rev. W. J. Chapman)	38	6	10
St. Laurence's, Catford (Rev. E. C. Robinson)	26	6	0
All Saints, West Dulwich (Rev. J. Beeby)	36	10	6
St. Stephen's, Portland Town (Rev. F. K. Povah)	34	16	6
St. Mary's, Merton (Rev. E. A. Kempson)	23	9	3
Willesden Presbyterian Church (Rev. James Darran)	27	10	0
St. Mary's, Leyton (Rev. J. Lunt)	22	5	6
St. Andrew's, Streatham (Rev. W. C. Cubison)	38	12	2
Chapel Royal, Hampton Court (Rev. D. Lancaster McAnally)	76	4	4
St. Mary Aldermary and Associated Churches (Rev. Lewis Borrett White, D.D.)	93	11	11
All Saints, Woodford Wells (Rev. N. R. Fitzpatrick)	22	12	5
Holy Trinity, Eltham-road (Rev. T. N. Rowsell)	44	12	9
Camden Church, Camberwell (Rev. P. S. O'Brien, D.D.)	61	19	6
St. Stephen's, Wandsworth (Rev. C. Carruthers)	50	0	0
St. John's, Penge (Rev. W. Smyly)	71	0	0
St. Augustine, Highbury (Rev. Preb. Gordon Calthrop)	64	0	2
R. M.	1	0	0
Christ Church, Brondesbury (Rev. C. Dale Williams)	60	5	9
St. Mary Boltons (Rev. W. T. Du Boulay)	61	11	6
St. Mary's, West Kensington (Rev. C. Bradshaw Foy)	51	16	0
St. Peter's, Streatham (Rev. H. Baron Dickinson)	50	19	6
St. Saviour's, Aberdeen Park (Rev. J. Bicknell)	32	13	0
Aldenham Parish Church (Rev. Kenneth F. Gibbs)	51	2	0
St. Luke's, Redcliffe-square (Rev. W. F. Handcock)	31	6	8
St. Margaret's, Lee (Rev. F. H. Law)	50	3	9
Chelsea Old Church (Rev. R. H. Davies)	21	10	1
Farm street Roman Catholic Church (Rev. T. Welsley)	36	8	3
St. German's, Blackheath (Rev. R. Hayes Robinson)	33	19	1
Stanmore Parish Church (Rev. F. C. Jackson)	42	8	6
St. Matthew's, Upper Clapton (Rev. L. H. Bradford)	74	8	6
Clapham Congregational Church (Rev. J. Guiness Rogers, M.A.)	53	9	3
Essex Unitarian Church, Notting-hill (Rev. R. S. Oakeshott)	28	9	2
All Saints, Clapham-park (Rev. A. G. Girdlestone)	42	1	1
St. Saviour's, Pimlico (Rev. Henry Washington)	52	3	9
Putney Parish Church (Rev. the Hon. R. Henley)	22	1	3
St. John the Evangelist, Putney (Rev. the Hon. R. Henley)	56	1	0
King's Weigh-house Chapel, Duke-street, W. (Rev. Alexander Sandison)	24	0	0
St. Philip's, Buckingham Palace-road (Rev. W. C. Gib)	20	4	1
St. Paul's, Clapham (Rev. H. Hughes)	57	14	4
Christ Church, Lee (Rev. L. A. Smith)	33	4	2
St. Saviour's, Paddington (Rev. M. Tweddle)	86	11	0
Christ Church, Woburn-square (Rev. J. J. Glendinning Nash)	27	10	0
St. John the Evangelist, Blackheath (Rev. J. W. Marshall)	46	3	0
St. Mildred's, Lee (Rev. F. W. Helder)	34	11	8
St. Andrew's, Stoke Newington (Rev. H. E. J. Bevan)	26	1	9
Royal Military Chapel, Wellington Barracks (Rev. R. Armitage)	49	10	1
St. Saviour's, Hampstead (Rev. G. A. Herklots)	21	18	3
Box outside Mansion House, including cheque from J. H. Brown for £2 2s.	25	1	8
St. Paul's, Shadwell (Rev. Edward Bray)	3	5	3
St. George's Hospital (Rev. W. Edward Blythe)	2	10	0
West Drayton Parish Church (Rev. A. W. S. A. Row)	3	5	10
St. John's Church, North Woolwich (Rev. A. E. Clarke)	2	11	4
Mr. Thomas Whitby, the Sweep, High-street, Bexley, Kent	0	10	6
St. Alphage, London Wall (Rev. R. Wheler Bush, M.A.)	4	0	0
St. Anthony's Church, Stepney, E. (Rev. W. Gedge)	2	6	2
St. John's Church, Drury-lane (Rev. K. W. Pownall)	5	2	6
Mission of the Holy Redeemer, Stoke Newington, N. (Rev. J. A. Le Couteur)	4	0	0
St. Mary's, Haggerston (Rev. A. Tanner)	4	15	5
Scottish National Church, Crown-court	1	7	0

Other subscriptions have been received, and will be announced in our next issue.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ADDITIONS TO THE MUSEUM.

PROFESSOR STEWART, the Conservator to the Museum Committee, is to be congratulated on the success which has attended his labours in the arduous task of obtaining, completing, arranging and describing the very interesting specimens which have been added to the Museum during the past year. The additions to the various departments are more numerous and are probably of a more interesting character than Professor Stewart has had to report upon for any similar period and will, looking to the fact that they include specimens not hitherto in the Museum, prove of great value to the collection.

In the department of pathology the additions, which are numerous, include many specimens illustrative of common diseases, usually classed as medical pathology. It is pointed out by Professor Stewart that for obvious reasons that section of the Pathological Department does not receive proportionately so many contributions as others devoted to purely surgical subjects, and that an attempt has accordingly been made to supply deficiencies in this respect and to render the collection more uniformly representative.

In the pathological series may be mentioned as being of considerable interest the following specimens: Gummatous ostitis of knee-joint, presented by Mr. J. Hutchinson, jun.; bullet impacted in spinal column, presented by Mr. J. W. Hulke; diverticulum of œsophagus, presented by Mr. J. F. Chavasse; peri-œsophageal suppuration from sword-swallowing, presented by Mr. C. Crisp; and foreign body removed from the ear by means of mercury, presented by Mr. A. M. Sheild.

The additions also include a series of microscopical sections, taken from all the specimens of Madura foot contained in the Museum, presented by Mr. A. A. Kanthack, who is of opinion that the fungus found in this disease is indistinguishable from, if not identical with, actinomycosis hominis; and from an independent microscopical examination of the same specimens Mr. J. H. Targett, we understand, is able to support this conclusion.

The cabinet of calculi presented by Sir Henry Thompson, and which now contains one thousand calculi, will prove interesting to many medical men, as it contains a full description of each case.

In the comparative anatomy section over one hundred skeletons and skulls of various mammals, mostly new to the collection, which were presented by the late Sir Victor Brooke, form a most valuable addition to the department. This section includes also two specimens of the remarkable somewhat mole-like marsupial, Notoryctes typhlops, which excited so much interest last year; this was presented by Professor E. C. Stirling.

We also note the large and interesting series of additions to the groups of symbiosis and commensalism exhibited at the last soirée of the Royal Society. The additions altogether in this physiological series are of very great interest and importance.

Not the least interesting exhibit is to be found in the additions to the anthropological series, which are numerous, attention should specially be directed to the series of thirteen skeletons and twelve skulls of Ancient Egyptians belonging to the fourth dynasty (not later than 4000 B.C.), presented by Dr. Flinders Petrie.

Looking to the fact that there are so many valuable additions to the collection and also the limited time that the collection is on view—namely (as we announced last week), July 5th, 6th, 7th and 8th—we may strongly advise all who are interested in these professional and scientific subjects to take the opportunity of paying a visit to the Museum.

ROYAL LUNATIC ASYLUM, DUNDEE.—The reports for 1891 submitted to the annual meeting of subscribers held on the 20th ult. were of a satisfactory character. There was an improvement in the financial position during the year; £2000 had been lodged in the bank from ordinary revenue and the building debt reduced by £8295 5*s.* 8*d.* The income from the board of patients &c. was £12 283 and the expenditure £12,385; 168 patients had been admitted during the year.

THIRD REPORT OF THE SELECT COMMITTEE OF THE HOUSE OF LORDS ON METROPOLITAN HOSPITALS.

THE report contains a summary of the evidence taken by the Committee, who come to the following

CONCLUSIONS.

ENDOWED HOSPITALS.

The Committee observe that only when the endowed hospitals wish to deal with their estates, or to alter the fundamental conditions on which they administer charity, can the Charity Commissioners effectually intervene. The practice is that the endowed hospitals send their accounts annually to the Charity Commissioners; but the action of the Commissioners is limited to receiving these accounts, and the Committee recommend that the Commissioners should have power to audit the accounts and to see that the endowments are applied according to the trust. For the building of St. Thomas's Hospital the authorities had to borrow £100,000 at the rate of 4 per cent., which was afterwards reduced to 3 per cent. St. Thomas's Hospital has £27,000 invested with the Charity Commissioners, and the committee consider that it is to be regretted that by the action of the Charity Commissioners the hospital was prevented from using its own money. In the case of the three endowed hospitals, the Committee are of opinion that the system of administration does not on some points compare favourably with that which exists at other general hospitals. It throws too much power and responsibility into the hands of one individual, the treasurer; though at St. Thomas's Hospital a larger share in the administration is assigned to committees than at the other two. The Committee would especially direct attention to a report by Dr. Thorne (see paragraph 18 of this report), showing that the nursing home at St. Bartholomew's Hospital was in a very unhealthy state, to such an extent that twenty-three nurses and three ward maids were attacked with diphtheria; and also that the drainage arrangements of the three principal ward blocks of the hospital square were defective and "could not be too strongly condemned." The Committee consider that, had there been a large committee of governors alive to the responsibilities of their office, such a discreditable state of things would not have been allowed to occur. It appears in the evidence that the surveyor, a salaried officer, during the three years that he had been in office had never been called upon to make a thorough examination of the drainage of the hospital; and though a report was at length made it was not a thorough report, the excuse being given that it had to be ready by a certain date and that there was not time to make it as thorough as it ought to have been. This neglect is, in the opinion of the Committee, the more inexcusable owing to the affluent circumstances of this charity. The Committee would suggest that in all these endowed hospitals the government should be carried on by a system of weekly boards and subcommittees. As regards St. Thomas's and Guy's Hospitals, the Committee greatly regret to remark that owing to want of funds, occasioned by fall of values, for the most part in agricultural rents, a certain number of beds are obliged to be kept vacant in each hospital, while others are let to paying patients.

REMAINING EIGHT GENERAL HOSPITALS WITH SCHOOLS.

The remaining eight general hospitals with schools depend entirely for their support upon voluntary contributions, excepting in a few cases where they possess some small endowment. Their systems of management greatly resemble one another and the evidence shows that they are generally well administered. The Committee note the enormous amount of work done by unpaid boards of managers; and the care exercised, so far as the Committee are able to judge, in the appointment of their medical as well as other officers. The Committee desire to refer to the personal nursing dispute appearing in the evidence of the London Hospital. The authors of these charges were for some time nurses and probationers in this hospital, some of whom did not remain during the whole period of training and of whom two at least stated grievances of their own which were not confirmed by the evidence; and the late chaplain who, for some time before the termination of his connexion in that capacity with the hospital, had differences with the Committee both in these matters and also in regard to the performance of his own duties. The charges are, on the whole, in the opinion of the Committee, not substantiated by the evidence. The evidence in regard to the injury to the health of the "sisters" appears inconclusive. The Committee consider that the difficulties would have been avoided had the governing board, in charge of the hospital at that time, not allowed their authority to fall into the hands of salaried officers. In justice, however, to the London Hospital, the Committee wish to add that it is an admirable hospital, doing work in a part of London where it confers inestimable benefits upon a very large and very poor population. They therefore think it is deserving of the greatest measure of charitable support. The Committee recognise that it is advisable, under present circumstances, to maintain the individuality of these general hospitals, and they consider that the generous rivalry thus promoted tends to medical and administrative efficiency. The Committee suggest that the fact of not holding the diplomas of the Royal College of Physicians and Royal College of Surgeons of London should not exclude practitioners who have graduated elsewhere from becoming members of the staffs of the general hospitals in London. At present at only one general hospital, St. Mary's, are there no restrictions. The Committee would gladly see the restrictions removed at the other hospitals in London.

CONVALESCENT HOMES.

The Committee remark that the accommodation for convalescents in connexion with the large hospitals is insufficient, only two or three having convalescent homes attached to them; and that this want is met by the authorities of the hospitals subscribing, through the Samaritan Fund, to convalescent homes. Owing to the scarcity of accommodation the patients, although not thoroughly cured, are discharged, if well enough to leave the hospital. In some cases these patients find their way to the Poor-law infirmaries; in other cases, patients suffering from medical complaints have to be kept for long periods in a hospital, although they would recover more rapidly at a convalescent home in the country. Moreover, these patients have to be provided for in the hospital, to the exclusion of those who would be

admitted were beds vacant. The Committee avail themselves of this opportunity to direct attention to this need, in the hope that more extensive convalescent accommodation may be provided by philanthropic effort.

OUT-PATIENTS AND DISPENSARIES.

The Committee received much evidence on the subject of the out-patient system. On the one hand were set forth the advantages of large out-patient departments for teaching purposes and for the relief of the poor, as they are open at all times day and night, and the great advantage they afford as centres for consultative purposes. On the other hand it was urged that unlimited medical relief was the first step towards pauperising large masses of individuals. The witnesses who held this view pointed out the advantages of provident associations. Those who had not the means to belong to a provident association could obtain medical relief from the institutions provided by the Poor-law. It was suggested that it might be advisable to map out London into districts; and that a person leaving one district and therefore the provident medical association could easily attach himself to the provident medical association of his new district. But the Committee, agreeing that such an arrangement would be highly desirable if it were practicable, doubt whether in London, with its heterogeneous and migratory population, such an organisation would be possible. It is considered by the Committee that by the abolition of the out-patient departments medical education would be seriously interfered with, and further, that on the whole it must be left to the authorities of the hospitals themselves to arrange the organisation of the out-patient department, with the view of rapidly attending to the requirements of the public and of insuring as far as they can that the charities shall not be abused. The Committee are of opinion that the charities are not abused to any serious or appreciable extent, nor do they think that it was by any means proved that patients are carelessly treated, or treated by students instead of thoroughly qualified medical practitioners. The evidence respecting fees appears to show that above the sphere of the poor-law there must exist a large section of the population who cannot afford to pay a doctor in the case of long and serious illness, or in the case of a large family. On reviewing the evidence as to the different systems pursued by the different great general hospitals, the Committee think that, on the whole, the system of limiting the number of out-patients per diem is the most convenient. The Committee consider that inquiries should be made wherever experienced officials think there is cause for suspicion and that the patient should establish a *prima-facie* case for charitable relief. It was difficult to obtain from witnesses the exact amount of the work of an out-patient department, because the return of new cases only shows about a third of the work done; it was, however, generally agreed that each patient attended on the average about three times. The Committee do not attach too much importance to the statements as to the reduction of fees of practitioners among the poor by the free work of the hospitals, but it is obvious that the existence of the charities must tend to reduce them. Medical practitioners and the medical officers of free and other dispensaries should be encouraged as much as possible to take advantage of out-patient departments as centres for consultative purposes; and, from the evidence of many hospital witnesses and others, this is already done to a certain extent. In the case of dispensaries and practitioners, the patient might be left in the hands of his medical adviser and not necessarily taken into the hospital.

DISTRIBUTION OF HOSPITALS.

The Committee observe with regret that on the south side of the Thames there is very little hospital accommodation compared with that on the north side. St. Thomas's Hospital and Guy's Hospital, already shown to be obliged, for want of funds, to close their doors to many of the sick poor, are the only large general hospitals south of the Thames, but they are situated in the extreme margin of the southern district. One witness from the south side described the medical relief as lamentably deficient; at the same time it was stated that Lambeth Infirmary was full. On the north side of the Thames, especially in the region of Soho, there is great congestion of hospital accommodation. It was stated by a witness that within one mile of the Middlesex Hospital (Berners-street, Oxford-street) there are over 2050 hospital beds, as well as 13 dispensaries of various kinds; in fact, that by far the greater proportion of the institutions for medical relief are within an area of two miles square. In addition to this local accommodation for the sick, there is the Marylebone Infirmary at Notting-hill, where there is accommodation for 650 patients; Paddington Infirmary, 180 beds; and Central London Sick Asylum, 264. It was suggested that certain hospitals might be removed from places where they are not so much required to localities where the accommodation is deficient. The Committee cannot regard this suggestion as practical, but they would strongly advise that more hospital accommodation should be provided south of the Thames, and were it possible to find the site, and were philanthropic endeavours to be made for further accommodation for the sick in London, a large general hospital, say in the densely populated district of Camberwell, would no doubt be of extreme value. The Committee do not lose sight of the tendency of individuals to prefer some particular hospital, and many instances were given of patients passing four or five hospitals on their way from their homes to a particular hospital in which they had confidence. Though the Committee cannot doubt that this is a fact, and that possibly this migratory disposition would not be checked by the building of a large general hospital, they are nevertheless convinced that more hospital accommodation is required south of the Thames.

EDUCATION.

The Committee had before them all the deans of the medical schools and heard opinions from some prominent members of the profession. Many witnesses put forward views in favour of and against central colleges for the teaching of certain subjects. The Committee consider it well worthy of consideration whether it would not be advantageous that the medical schools in London should affiliate themselves to a teaching university or organisation, after the nature of colleges in a university, with the view to the securing first-rate lecturers for the subjects which can be taught in classes as distinguished from clinical instruction. The Committee observe that a very useful field for medical instruction is at present closed to students—namely, the Poor-law infirmaries. It was the opinion of nearly every witness that these infirmaries could be usefully opened for clinical instruction. In this the Committee heartily concur. In addition to the large field for instruction which would thus be opened, they agree with the opinions expressed that the presence of students is to the practitioners stimulating, by reason of the observation and criticism which are brought to bear on diagnosis and treatment; and the evidence they have received shows that where a system of clinical classes of students is carried out under proper regulations the patients have no objection to students at their bedsides. It appears that there are only three hospitals where female clinical clerks are employed—the Hospital for Children in Great Ormond-street, Royal Free, and New Hospital for Women. Witnesses from these hospitals testify to the ability and address with which the duties of such clerks are performed.

SPECIAL HOSPITALS.

The case of special hospitals and the arguments urged for and against this class of hospital are summarised in the preceding pages. Hospitals for certain diseases of patients—for example, for children—do not appear to the Committee to be open to the criticisms made on special hospitals. Lock hospitals form a separate subject for consideration. The Committee think that the nature of the disease and the character of the patients make it desirable that they should be treated in separate buildings, or, at all events, in separate wards from other patients. The Committee have had their attention particularly directed to the fact that patients in these hospitals are in the habit of quitting the hospital in a diseased state on such occasions as the Derby week, fairs, &c., for the purpose of pursuing their avocation. The Committee recommend that provisions analogous to those which prevent a patient leaving a hospital when suffering under infectious diseases should be extended to certain venereal diseases. Objection is made to special hospitals on the ground that exclusive attention to a particular disease tends to narrow the mind and to induce a specialist to imagine that all complaints are in some measure connected with the disease to which he has devoted so much attention. It is obvious that there is a certain tendency in any special study to narrow the mind, but any such consequence is practically avoided if the practitioner goes through a sufficient course of general hospital and other general practice before he elects to devote himself as a specialist to a particular disease. It is impossible to prevent the natural consequences of the great competition in London to force men into eminence in respect of their special knowledge and familiarity with particular complaints. After all the evidence presented to them it seems to the Committee that the hostility, so widely shown by the medical profession to special hospitals, arises from the fact that numerous small hospitals for special diseases have been instituted by medical men for the purposes of their own advancement, and that such a course of action leads to the establishment of hospitals where they are not wanted, to waste of money incident to the creation of badly managed and small institutions, and to the deception of the public by inducing them to subscribe to undertakings alleged to be of public benefit, but which are in reality mere schemes for private emolument, and also are useless for teaching purposes. The Committee consider that the charge of abuse is substantiated in regard to some small special hospitals. This class of small special hospitals to which the Committee refer, of which examples appear in the evidence, the Committee do not consider of any real benefit either to the sick or to science. They appear to be carried on sometimes in incommodious buildings or under unsanitary conditions, and the Committee would deprecate the multiplication of such institutions. The Committee think it their duty to invite particular attention to the case of the Royal Hospital for Incurables at Putney. While in receipt of very large support, having a surplus in 1889 of £16 000, the authorities of this hospital appear to be incapable of effecting reforms and are extremely resentful of external observation. In regard to this hospital the Committee would strongly recommend reforms in this direction:—That a resident medical officer should be appointed with general control in absence of the Committee, as is the case in the Poor-law infirmaries; that a ladies' committee should be appointed, as a large majority of the patients are females; that all nurses should be hospital trained; that the contracts for food and stores of all kinds should be by open tender; and that the general supervision by the committee of governors should be greatly increased. The objects of this charity are excellent, but until the management is thoroughly reformed the Committee regret that they feel bound to add that the institution is not one which can be commended.

ACCOUNTS.

The Committee observe with satisfaction that, since the opening of this inquiry, a committee, comprised of the secretaries of some of the principal London hospitals, has been considering the subject of a uniform basis of accounts, a copy of which appears in Appendix A to the report. The Committee are glad to notice that those best acquainted with hospital accounts have recognised the advisability of a uniform system. The Committee consider that, for accuracy, further subdivision on the expenditure side might be advisable—as, for instance, "firing and lighting"; also "wines and spirits" might be tabulated separately. Under heading VI. it might be well to state, for the information of the public, for whom the "salaries, wages and pensions" as well as "other salaries, wages and pensions" are charged. It might be worth while for the committee of hospital secretaries, if it renews its sittings, to consider whether the totals might be stated on one page, with letters referring to schedules, where the items of expenditure might be set forth in greater detail. In the evidence before the Committee mention was made of the difficulty of ascertaining the cost of an out-patient, without which calculation any estimate of the cost "per bed" is unreliable. The Committee do not think the difficulties insurmountable. The main difficulty appears to be to separate the accounts of the dispensaries into two parts—the in-patient and out-patient; this once arranged, the reliable cost per bed might be ascertained. The Committee consider that this difficulty might be met thus—an account might be kept of any drugs supplied for the in-patients; the difference between the total dispensed and the amount supplied to the in-patients would be the amount supplied to the out-patients. The wages of the nurses in the out-patient department and the wages of the scrubbers, porters, &c., employed could be charged to the out-patient department. The proportion of rates and taxes might be estimated by the proportion which the space allotted to the out-patient department bears to the whole hospital.

CONTRACTS.

The Committee consider that all contracts should, as far as possible,

be by public tender, according to the practice enforced by the local board in regard to poor-law infirmaries.

COÖPERATION.

The Committee regret to remark that there does not seem to be any genuine wish for coöperation between the various kinds of medical institutions. They are of opinion that much more might be done than at present by the hearty coöperation between the special hospitals and general hospitals, between dispensaries of all kinds and general hospitals, and between general practitioners and general hospitals. It would be an early duty of a central board to devise some scheme to further such coöperation.

NURSING.

The subject of nursing is treated at length on pages 73 to 85. A certain amount of variety exists as to the hours of employment of nurses in the general hospitals in London. The Committee consider that eight hours' work, exclusive of the time for meals, is, as a rule, as much as should be required from nurses in these hospitals. In constructing future hospitals care should be taken that sufficient accommodation for nurses be provided to allow of the hours of nursing being reduced. They would suggest that every nurse in the large and busy hospitals in London should have at least two days off in the month and that the period of holiday should not be less than three weeks; that not less than one full hour should be allowed for dinner; and while, on the whole, the food of the nurses appears to be good, yet, from the nature of the occupation of nurses, special care ought to be exercised that as well as being sufficient in quantity and in quality it should be served in an appetising manner. To bring about this end the Committee are strongly of opinion that at the nurses' dinner one of the head officials of the hospital should preside, and that the dinners should be frequently visited by members of the governing body. The Committee note with satisfaction the great preponderance of opinion that the health of nurses in London is good. The Committee think it very desirable that, where the funds of the hospital permit, pensions should be provided for nurses, whether by the hospital following the example of the London and Guy's Hospitals, by joining the National Pension Fund for Nurses, or by the hospital providing a special pension out of its own funds. Nurses in the wards should not have their duties increased by doing menial work, such as scrubbing and cleaning grates and lavatories or other services of a like nature. For that purpose, as is the case in most hospitals, the class of servant termed "ward maids" or scrubbers should be employed. While the Committee recognise that the matron must be greatly responsible for the appointment and dismissal and general conduct of the nurses, they are strongly of opinion that no absolute power ought to be given to any matron, but that the appointments and dismissals should be made by the chief executive authority of the hospital. It is to be observed that many hospitals send out nurses after a certain period of training at sums varying from one guinea to three guineas a week to private patients. That these nurses bring considerable addition to the funds of the hospital there can be no doubt. The Committee consider that this is a good practice, but that, to prevent the wards from being denuded of nurses in order to bring funds to the hospital, a separate staff should be employed for this purpose. They are of opinion that the minimum period, after which a nurse can be advertised as thoroughly trained, is three years; and considering the large amount of money these nurses can earn for the hospital, the Committee think that a sliding scale commission on their earnings, mentioned as being in practice at one of the large general hospitals, would be a fair addition to their regular hospital wages. It appears that at the London Hospital, in the form of certificates for nurses, certain blanks may be filled up in different ways according to the discretion of the matron. The nursing capabilities and conduct of the nurse may be described respectively as "excellent" and "exemplary," which constitutes a first-class certificate, or as "good" in both cases when the certificate ranks as second class. It would seem that the latter form is used when the matron is by no means satisfied with a nurse; and the Committee think that words indicative of inferiority should be inserted in all certificates below the best, if, indeed, it is desirable that any such certificate should be issued at all. In regard to male nurses, who appear to be only employed in cases of violent patients, with the exception of two hospitals, every care should be exercised to secure the services, if not of duly qualified men, of well-known and thoroughly trustworthy persons, having, if possible, some experience. Nursing in the Poor-law infirmaries differs in various institutions. In some a large proportion of nurses are hospital trained; but the Committee regret to find that one half of the matrons are not regularly trained nurses. The Committee are strongly of opinion that not only all matrons but that all nurses in a Poor-law infirmary should be trained nurses; the Committee would recommend that no nursing whatever should be done in infirmaries by paupers. The Committee remark that there is no separate infirmary at Bethnal-green and they observe with surprise and regret that there appears to be in the sick wards in this workhouse a regular staff of less than twenty nurses, some of whom are sixty-five years of age, and that as many as eighty paupers are employed as nurses. The Committee consider that the number of nurses should be increased throughout the infirmaries and that infirmaries should train their own nurses. This system already exists at one of the largest infirmaries in the metropolis.

POOR-LAW INFIRMARIES.

On the whole, the Committee are inclined to think that the system of organisation which places the resident superintendent in charge of the whole institution is a good one. The Committee agree in the suggestion of Miss Twining, that lady inspectors for infirmaries, especially as regards the nursing department, would be a valuable addition to the staff of the Local Government Board. The new Poor-law infirmaries established since 1867 appear to the Committee, so far as they are able to judge from the evidence, to be well-managed institutions. They think that further accommodation is required, as it was pointed out that a large number of sick poor have to be treated in the sick wards of certain workhouses. The medical supervision is less efficient in the workhouse, while the nursing is altogether inferior. The Committee concur in Dr. Bridge's suggestion that the accommodation in infirmaries should be increased so as to take the patients who are now housed in the workhouses. A notable instance exists in the case of the three unions, the Strand, St. Giles's and St. James's, which have but a single infirmary between them, the London Central Sick Asylum containing only 264 beds, as has been observed above, while Bethnal-green has no infirmary whatever. The Committee observe that, although strong representations have already been addressed by the Local Government Board to the guardians of Bethnal-green with a view of increasing their sick accommodation, no steps have yet been taken to remedy the defect; and they are of opinion that if the powers of the Local Government Board are insufficient to enforce a proper provision for the sick, they should be extended.

The want of accommodation for the sick is also notable as regards the Whitechapel district, where it appeared that at times the infirmary has 10 per cent. more patients than its proper complement.

HOSPITAL SATURDAY AND SUNDAY FUNDS.

The Committee think the public might subscribe more freely to the Hospital Saturday and Sunday Funds could they believe that by these organisations they were really enabled to discriminate between those hospitals which are worthy and those which are unworthy of support. The system of distributing the Sunday Fund on the principle of "work done," and the Saturday Fund on that of "relief afforded," appears to be open to the objection that it is a premium on competition for patients; and that it tends to stimulate the discharge of patients before the cure is complete, with a view to show as large a return as possible of patients in the year.

PROPOSED CENTRAL BOARD.

Various proposals for a central board are set out on pages 44 to 47 of this report. The Committee do not incline absolutely to any one of these proposals. They are of opinion that, as there is no Government grant, the interference of a Government officer for inspection would be unwise, and they think such interference would tend to check the flow of voluntary contributions and to some extent to interfere with the responsibility of the unpaid boards of managers. The Committee do not think that such a central board should be given any statutory powers as regards the formal licensing of any hospital built, or about to be built. They would recommend that the proposed central board should be granted a charter to entitle it to receive endowments, legacies, bequests and contributions for distribution to medical charities and to meet its own necessary expenses. The board might be organised in the following way:—The various hospitals and dispensaries of all kinds should be grouped. The smaller hospitals should be grouped according to the classes of disease which they treat. Each general hospital, with or without a school, might be considered to be equivalent to a group. Each group would send one or more delegates to be members of the central board. The heads of the great medical corporations—e.g., the Royal Colleges of Surgeons and Physicians, the Medical Council and the Society of Apothecaries—might become members of this central board. The free and part-pay dispensaries might send one member and the provident dispensaries also one member. The Hospital Saturday and Sunday Funds might each send one member. A table (marked "A") is attached, suggesting details for the formation of such a board. The duties of this board might be of the following nature:—(1) It should receive annual reports, statements of accounts and balance-sheets from all hospitals and dispensaries, together with a return of the total number of in-patients, out-patients, and casualty patients. (2) It should require that all accounts be audited by competent chartered accountants. (3) It should arrange that all medical charities should be visited and reported on periodically. (4) It should report from time to time, as occasion required, all proposals for new hospitals. (5) It should publish an annual report, the principal heads of which might be as follows:—(*a*) A complete statement as to the pecuniary position of each medical charity. (*b*) A statement by a competent authority as to the existing sanitary condition and ventilation of each hospital and as to arrangements concerted with the Metropolitan Fire Brigade. (*c*) An account of the number of beds in use, the number of beds unoccupied, and the reasons why they are unoccupied. The average daily number of occupied beds, details as to beds for which payment is made, and the number of resident medical staff, resident officers, nurses and servants. (*d*) A statement as to the method according to which each hospital deals with its out-patients and casualty patients and the number of each. (*e*) Proposals for the removal of hospitals and dispensaries to places where further hospital or dispensary accommodation is required and the proposals for the establishment of new hospitals, and all other matters of interest relating to the treatment of the sick poor. (*f*) The nursing at hospitals and the proceedings of nursing associations in the metropolis. (6) The proposed board should early turn its attention to the possibility of so organising medical charity as to secure their coöperation with one another and the coöperation of medical charity with general charity.

While this board would not have any direct or legal power to stop the building of a new hospital, or to amend systems of organisation in existing institutions, the Committee think that the fear of adverse comment in the reports of the board, or omission from recommendation in those reports, would have a powerful influence in preventing the building of useless hospitals and in securing proper administration in existing institutions. The Committee think that the board should assist and work with the managers of the Hospital Saturday and Sunday Funds, and that in addition to the caution which is exercised by the administrators of those funds no grant should be made to any institution whose application was not endorsed by the central body. There can be little doubt that in times of pecuniary difficulties of any individual hospital or group of hospitals appeals to the public would have greater weight were they supported by a body of responsible men who were conversant with the merits and the means of all the medical charities in London. The expenses of this board might be defrayed by levying a small percentage on the income of each group of hospitals sending a delegate to the board. In sketching the foregoing outline of a central body, the Committee are desirous of expressing their opinion that some more satisfactory organisation of medical charity is most desirable. It should always be borne in mind that the establishment of Poor-law infirmaries and rate-supported asylums, under the Metropolitan Poor-law Act, 1867, has in great measure altered the relations between the poor and the hospitals and everything associated with medical charity; and the Committee cannot shut their eyes to the possibility that if some such organisation as they have recommended is not adopted, a time may come when it will be necessary for hospitals to have recourse either to Government aid or municipal subvention. It is shown by the evidence that, apart from the three endowed hospitals, the general hospitals

in London are maintained principally by the legacies they receive and large donations from unexpected quarters. In most cases the subscriptions from annual subscribers do not suffice to pay the wages of the servants and nurses employed in the service of each hospital, to say nothing of the cost of maintenance and administration. It has been authoritatively stated that from £50,000 to £55,000 per annum are required to render available the 1800 or 2000 vacant beds which are said to exist. One endowed hospital is maintained entirely by its endowments, but the two others are so short of funds that many beds are closed to the sick poor. It but remains for the Committee to acknowledge the readiness with which the authorities of the medical charities and of the Poor-law institutions have laid before them all the information desired.

TABLE A.—*Suggested Grouping of Hospitals for the purposes of Representation on the proposed Central Board.*

Group of hospitals, &c.	Number of beds.	Number of representatives.	Total representatives of groups.
3 Endowed hospitals ..	1912	6	—
8 General, with schools ..	2613	10	—
9 General, without schools	887	4	—
16 Women and women and children	926	4	20 —
4 Consumption	511	1	—
2 Dental	—	1	—
3 Incurables	—	1	—
2 Cancer	141	1	—
4 Paralysis and epilepsy ..	240	1	—
3 Orthopædic	113	1	—
2 Seamen and accidents ..	308	1	—
5 Ophthalmic	197	1	—
5 Throat and ear	52	1	—
7 ; 4 Skin and 3 Fistula, &c.	112	1	—
1 Lock	208	1	—
1 London Fever	180	1	—
4 Lying-in	132	1	—
7 Foreign and pay	249	1	—
Free and part-pay dispensaries	—	1	—
Provident dispensaries ..	—	1	— 20
General Medical Council	—	1	—
Royal College of Physicians	—	1	—
Royal College of Surgeons	—	1	—
Society of Apothecaries	—	1	—
General practitioners ..	—	1	—
University for London ..	—	1	— 6
London County Council	—	1	1
Sunday Fund	—	1	1
Saturday Fund	—	1	1
		Total ..	49

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Barnsley Rural District.—Changes in the area of this district make statistical comparisons with previous years somewhat difficult. The general death-rate, which was influenced both by measles and influenza, was 18·8 per 1000 last year. School attendances, both as regards teachers and scholars, had to be interfered with by reason of scarlet fever and measles, and a certain number of patients, including four cases of enteric fever and one of small-pox, were removed to the Kendray Hospital. Dr. Sadler naturally finds grave fault with the Yorkshire midden-privy and the nuisance necessarily arising from it; he also refers to bad scavenging at Darfield and Cudworth. Extension of sewers is in progress, drain defects continue to be remedied and by-laws as to slaughter-houses are to come into operation. Other improvements are still called for and amongst these is the substitution of a proper water-supply for that derived from local wells in certain localities, such as Royston.

Plymouth Urban District.—Mr. F. M. Williams has evidently performed his duty towards Plymouth in pointing out its gravest sanitary defects. The "wall sewers," which are but elongated cesspools, together with inefficient drainage, ventilation, water-supply, &c., are naturally found to be associated with high death-rates; and it is satisfactory to learn that as regards the sewers a new scheme is in prospect. Mr. Williams objects to the ventilation of sewers on to the level of narrow streets. In this respect he by no means stands alone, but when he explains that it is a paradox to allow this as regards sewers and to require soil pipes to be ventilated by shafts "carried above all windows," it may be argued that the two things not are quite comparable. Soil pipes ought not, according to modern by-laws, to receive air from the public sewers; they should only contain the current of air, largely fresh air, which courses through each separate house drain and this drain is in turn aerially cut off from the sewer. Thus to admit the air of one's own house-drain at a level above house windows is a different thing from receiving the air of public sewers, which may contain infectious excreta in abundance at the same point. This, indeed, is one of the difficulties in finding an acceptable alternative to the system which Mr. Williams and others condemn. The general death-rate for 1891 was 22·5 per 1000 and the infantile death-rate was abnormally high, a result which, apart from other circumstances referred to in the report, cannot be dissociated from the prevalence of insanitary conditions. Public health matters are, we trust and believe, now receiving much attention in this important borough, and amongst other matters we are glad to note that the long-needed means for properly isolating cases of infectious diseases are about to be provided. Action is also being taken under the Housing of the Working Classes Act.

Wirksworth Urban District.—According to Mr. Broster the death-rate of 17·4 per 1000 last year, whilst marked by an excess of death amongst old people, was attended with a diminished amount of death in infants. The infectious diseases notification system seems to work well, but there are no adequate means for isolation and disinfection; and to provide such means in a proper way is held to be beyond the resources of the district. Combination between adjoining districts is hardly likely to be made voluntarily, and hence Dr. Broster favours the formation of joint districts for such purposes by the County Council, much on the same lines as those set out in Lord Thring's Bill just submitted to the House of Lords. House accommodation for the lower classes is bad in the district, but it is hoped that new erections will be properly controlled by the by-laws. Questions of water-supply and sewerage are engaging the attention of the authority.

Stroud Rural District.—For the eighteenth year Mr. T. Partridge makes his annual report on this district. Diphtheria prevailed to an exceptional extent, the disease being found in association with insanitary surroundings and dampness of houses due to faulty foundations or to walls abutting on adjacent banks; it is also suggested that the existence of scarlet fever produced faucial lesions favourable to the reception of the diphtheria contagium. Public water-service is being extended in the district and other sanitary work is steadily in progress. The general death-rate and the zymotic rate were 18·4 and 1·5 per 1000 living respectively.

Watford Urban District.—Dr. Brett gives the death-rate for 1891 as 12·9 per 1000 and the zymotic death-rate was low. The isolation hospital is well spoken of, although the scarlet fever pavilion is looked upon as temporary. Since the report was written difficulties as to scarlet fever isolation in the rural district have arisen and if the joint action between the two authorities advocated by Dr. Brett is maintained it is to be hoped that something more than temporary provision will be made. The report does not this year contain much information as to sanitary circumstances or improvements in the district.

Thingoe Rural District.—Dr. C. S. Kilner discusses the vital statistics of the district somewhat carefully, and gives the death-rate for 1891 as 15·2 per 1000 living, the zymotic rate being 0·57. Infectious diseases have, as will be gathered, been by no means frequent, and typhoid fever, the disease which is most intimately influenced by sanitary measures, was practically absent. There were, however, 14 cases of scarlet fever, a number quite large enough to start an epidemic, hence the recommendation to provide means of isolation in advance. The water supplies, some of which are hardly of the best, are looked after; dwellings are supervised with a view to their being made fit for human habitation; and some very interesting proceedings are recorded in connexion with action taken under the Housing of the Working Classes Act, 1890, which has ended in the burden of the expenses for building certain new houses being cast on the whole of the Thingoe Union.

Bilston Urban District.—Of 92 notifications during 1891 63 had reference to scarlet fever, and of these 28 patients were removed to a temporary cottage hospital, no death occurring. The hospital was thus very useful, but Dr. Bailey reminds the sanitary authority of the need for a per-

manent building, adequately arranged for its intended purposes. Houses have been condemned and otherwise dealt with; the closet arrangements need to be brought under one system, and the water-carriage system, combined with automatic flush arrangements, is advocated for the houses of the labouring classes. The death-rate was high—namely, 23·6 per 1000; and the rate of death in infants was excessive, even in view of the fact that young mothers are much employed in factory labour.

Ulverstone Rural District.—Dr. A. Thompson calculates the death-rate as 14·4 per 1000 last year. Of 106 notifications 69 were of scarlet fever and 27 of typhoid fever. As regards the latter, it is stated that the water-supply was often found unsatisfactory, but that this has been remedied. It may be hoped that the supplies will be maintained under constant supervision so as to prevent such a result in the future.

Grange-over-Sands Urban District.—The main drainage has been completed in this district, scavenging is in part carried out by the authority and improvement in the water-supply is in prospect. In short, this place bids fair to have an excellent reputation. The death-rate, according to Dr. A. Thompson, was 10 per 1000 in 1891.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6782 births and 3377 deaths were registered during the week ending June 25th. The annual rate of mortality in these towns, which had been 17·8 per 1000 in each of the preceding two weeks, declined last week to 17·3. In London the rate was 17·3 per 1000 and corresponded with the mean rate in the thirty-two provincial towns. The lowest rates in these towns were 8·8 in Croydon, 11·2 in Wolverhampton, 11·6 in Brighton and 11·9 in Leicester; the highest rates were 21·1 in Manchester, 21·5 in Salford, 22·7 in Huddersfield and 22·9 in Oldham. The 3377 deaths included 477 which were referred to the principal zymotic diseases, against 466 and 514 in the preceding two weeks; of these, 176 resulted from measles, 99 from diarrhœa, 84 from whooping-cough, 50 from diphtheria, 47 from scarlet fever, 19 from "fever" (principally enteric) and 2 from small-pox. No fatal case of any of these diseases occurred last week in Huddersfield or in Gateshead; in the other towns they caused the lowest death-rates in Croydon, Leeds and Newcastle-upon-Tyne, and the highest rates in Manchester, London, Oldham, Preston and Halifax. The greatest mortality from measles occurred in London, West Ham, Manchester, Sunderland, Birkenhead, Oldham, Birmingham and Halifax; from whooping-cough in Salford, Bristol, Preston and Hull; and from diarrhœa in Blackburn, Norwich, Birmingham and Plymouth. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 50 deaths from diphtheria included 39 in London and 4 in Manchester. A fatal case of small-pox was registered in London and one in Liverpool, but not one in any other of the thirty-three large towns; 56 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 6 in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2066, against numbers increasing from 1226 to 1945 on the preceding thirteen Saturdays; 284 new cases were admitted during the week, against 207 and 213 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 304 to 202 in the preceding six weeks, further fell to 181 last week and were 35 below the corrected average. The causes of 49, or 1·5 per cent., of the deaths in the thirty-three towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Bristol, Bradford, Newcastle-upon-Tyne and in thirteen other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Salford, Blackburn and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·8 and 17·7 per 1000 in the preceding two weeks, rose again to 19·3 during the week ending June 25th and exceeded by 2·0 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·7 in Perth and 16·5 in Greenock to 20·0 in Aberdeen and 21·1 in Glasgow. The 538 deaths in these towns included 35 which were referred to measles, 27 to whooping-cough, 11 to diarrhœa, 8 to diphtheria, 3 to scarlet fever, 1 to "fever," and not one to small-pox. In all 85 deaths resulted from these principal zymotic diseases, against 82 and 66 in the preceding two weeks. These 85 deaths were equal to an annual rate of 3·1 per 1000, which exceeded by 0·7 the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 27 in each of the preceding two weeks, rose again to 35 last week, of which 31 occurred in Glasgow and 3 in Edinburgh. The deaths referred to whooping-cough, which had been 30 and 27 in the previous two weeks, were again 27 last week and included 22 in Glasgow and 3 in Edinburgh. The fatal cases of diphtheria, which had been 2 in each of the preceding two weeks, rose to 8 last week, of which 3 occurred in Aberdeen, 2 in Edinburgh and 2 in Glasgow. The 3 deaths from scarlet fever showed a slight further decline from recent weekly numbers and included 2 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 124 and 94 in the preceding two weeks, further declined to 80 last week and were 47 below the number in the corresponding week of last year. The causes of 43, or more than 8 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24·0 and 31·6 per 1000 in the preceding two weeks, declined again to 27·4 during the week ending June 25th. During the first twelve weeks of the current quarter the death-rate in the city averaged 31·9 per 1000, against 19·0 in London and 17·9 in Edinburgh. The 184 deaths in Dublin during the week under notice showed a decline of 28 from the number in the preceding week and included 24 which were referred to measles, 5 to whooping-cough and not one either to small-pox, scarlet fever, diphtheria, "fever," or diarrhœa. In all, 29 deaths resulted from these principal zymotic diseases, equal to an annual rate of 4·3 per 1000, the zymotic death-rate during the same period being 3·1 in London and 1·8 in Edinburgh. The fatal cases of measles, which had increased in the preceding three weeks from 21 to 27, declined again to 24 last week. The deaths referred to whooping-cough, which had been 1 and 5 in the preceding two weeks, were again 5 last week. The 184 deaths registered in Dublin last week included 29 of infants under one year of age and 43 of persons aged upwards of sixty years; the deaths of infants showed a slight decline, while those of elderly persons showed a further increase upon recent weekly numbers. Four inquest cases and 2 deaths from violence were registered; and 55, or nearly a third, of the deaths occurred in public institutions. The causes of 14, or nearly 8 per cent., of the deaths in the city last week were not certified.

CALCUTTA

The total number of births registered in February was 647, giving an annual ratio of 16·6 per 1000 of population. Of the 647 births 324 were males and 323 females. The total number of deaths (exclusive of stillbirths) registered in February was 1199, against 1302 in the preceding month showing an annual ratio of 30·8 against 33·4 per 1000 of the population. The proportion of male to female deaths was as 138 to 100. The monthly total was higher than all the corresponding figures of the past decade, excepting 1890 and 1891. There were 85 deaths from cholera, against 57 in the preceding month. The number is less than all the corresponding figures of the past ten years, excepting 1886 and 1887. There was only one death from small-pox registered, and one in the previous month. The deaths from fevers amounted to 455, against 497 in the previous month. The total exceeds all the corresponding figures of the past decade. There were 32 deaths from tetanus in the month, 24 of which were under one year of age. The mortality of infants under one year of age reckoned on estimated births was 277·9 against 287·2 in the preceding month per 1000 of population per annum. In the amalgamated area of suburbs there were 366 births registered in the month, giving an annual ratio of 20·4 per 1000 of population. Of these 203 were males and 163 females. The total number of deaths registered in February was 721, giving an annual ratio of 40·2 per 1000 of population. Of these deaths 40 were from cholera, 339 from fevers, 79 from bowel complaints, 42 from tetanus, 13 from injuries and 208 from other causes

THE SERVICES.

MOVEMENTS IN THE ARMY MEDICAL STAFF.

Surgeon-Major F. W. Trevor has been transferred from Aldershot to Woolwich.—Surgeon-Major J. E. Nicholson has arrived at Hong-Kong in relief of Surgeon-Lieutenant-Colonel Barrow.—Surgeon-Major Murphy, Senior Medical Officer of the Royal Arsenal, died on the 24th ult.—Brigade-Surgeon-Lieutenant-Colonel F. Howard, in charge of the Station Hospital, Belfast, has proceeded on leave of absence.—Surgeon-Lieutenant-Colonel Charlton, in charge of the Station Hospital, Athlone, has proceeded on leave.—Surgeon-Captain L. E. Anderson has joined at Whitley Camp from York for duty with Militia.—Surgeon-Captain J. V. Savaige has been invalided to England from Ceylon.—Surgeon-Captain A. Perry has arrived in Ceylon.—Surgeon-Captain O'Callaghan has arrived in England on leave of absence from Cyprus.—Surgeon-Captain J. Ritchie has obtained leave of absence from Malta for four months.—Surgeon-Captain A. Baird has proceeded from Devonport to Leigh-hill Camp with Militia, and Surgeon-Captains J. H. Brannigan, C. Gorner and H. B. Mathias to Hay Camp, Monmouth and Brecon respectively.—Surgeon-Captains Bayler, Power, Jameson and Sandiford have proceeded from Cork to Nenagh, Wexford, Kilkenny and Glenburgh respectively, on Militia duty.—Surgeon-Captains F. W. Begbie, Dunn, Tyacke and Burchall have proceeded from Portsmouth to Montrose, Haddington, Edinburgh and Wicklow respectively on Militia duty.—Surgeon-Captain C. J. Woods has been granted sick leave from Gosport.—Surgeon-Captain R. C. Johnston, Thames District, has been granted leave pending retirement.—Surgeon-Lieutenant-Colonel Dwyer has joined the Home District for temporary recruiting duty and Hon. Deputy-Surgeon-General Don has proceeded on leave.

DEATH OF SIR WILLIAM AITKEN.

In consequence of the death of Sir William Aitken and the retirement of Dr. Allman, the post of Examiner in Chemistry and Natural Science at the next examination of candidates for the Army Medical Service will, it is understood, be filled by Dr. T. W. Shore, of St. Bartholomew's Hospital, and that of Examiner in Medicine by Dr. W. H. Allchin.

ENTERIC FEVER IN INDIA.

We are glad to see that this subject is exciting the attention of the Indian press. We have so frequently adverted to it that there remains little or nothing to add to our previous remarks. Quite recently the deaths of three young officers from this disease have been announced in three separate localities. Enteric fever is notoriously the most fatal disease to which the young and newly arrived European soldier is exposed in India; and its spread seems to have been rapidly increasing in that country of late years. No doubt the numerical increase is partly attributable to a more careful diagnosis and to the fact that the true nature of the milder forms of the disease are recognised and correctly returned; but this does not by any means explain the large and increasing mortality and sickness attributable to typhoid fever in India. It is notably during the soldier's first year or two of service in that country that his risk of contracting it is so great. It seems to us that something in the shape of a public health department, with local boards at different military centres, might be organised. On the occurrence of any outbreak the fact should be reported to the nearest local committee or board, who should proceed to investigate all the circumstances on the spot, with the skilled aid of some engineer or officer of the public works accustomed to sanitary work, so that any defects might be traced and remedied without unnecessary delay. The time has surely come for a thorough and systematic inquiry into the causes of typhoid fever in India by medical, sanitary and engineering experts and for some method of procedure being organised and carried out for investigating local outbreaks and adopting some practical action in regard to them.

THE DEARTH OF DOCTORS IN INDIA.

The *Civil and Military Gazette*, in adverting to the prevailing unhealthiness of North-Western India, considers the time opportune for reiterating its complaints against the inadequate supply of doctors. The medical services in India have no representation commensurate with their importance in the government of India, and it is to this that our contemporary attributes the fact that their complaints are not attended to. It is not, however, from the point of view of the doctors that the question has to be regarded. It is obviously a public question and a serious one as far as their actual and prospective patients are concerned, for a scarcity of medical aid during unhealthy seasons becomes a serious affair for the public. There does not appear to be a sufficiency of medical officers for ordinary work, to say nothing of any margin for contingencies. Owing to the paucity of medical officers, too, it is alleged that there are great difficulties in getting leave. Economy is no doubt a commendable quality in a Government, but there is such a thing as cutting down below the line of safety, a point which, according to our contemporary, seems to have been reached by the Indian Government.

PESHAWAR DISTRICT.

It is stated that the administrative medical charge of the Peshawar district will be held alternately by a Brigade-Surgeon-Lieutenant-Colonel of the Medical Staff and of the Indian Medical Service and that the Quetta district will be a Surgeon-Colonel's charge.

FIELD HOSPITALS IN BURMA.

It appears that the mobilisation of the field hospitals in Burma is exercising the minds of the authorities of the Madras Government. The hospitals are in Rangoon and supposed to be in readiness to accompany troops proceeding on active service, but they could not, in reality, be mobilised under a month, owing to their not being fully equipped and furnished with the requisite *personnel*. To draw the *personnel* from the permanent hospitals of the district would be to unduly denude these institutions, and to maintain a reserve of medical officers in readiness at Rangoon would be too costly a proceeding for the Government to entertain—hence the difficulty.

Yet another remedy for snake-bite, this time a vegetable one, has been seriously discussed. Brigade-Surgeon W. Dymock has contributed a paper dealing with this specific to the most recent number of the *Journal of the Bombay Natural History Society*. The plant in question is scientifically known as *Pogostemon Purviflorus* and its uses in cases of snake-bite are said to have been long well-known to natives in the western parts of India. Mr. Dymock seems to have procured good evidence as to its value in cases of bite by the venomous *Echis Carinata*.

Cholera of a severe type is still prevalent in Kulu, so it is extremely unlikely that the Viceroy will visit the Valley during the rains.

Dr. Deare, Civil Surgeon of Damoh, has succumbed to the injuries lately inflicted on him by a wounded tiger.

INDIAN MEDICAL SERVICE.

Bengal.—The Queen has approved of the following promotions:—Surgeon-Majors to be Surgeon-Lieutenant-Colonels (dated March 30th, 1892): Alexander Crombie, M.D.; William Reed Murphy, D.S.O.; Chas. Henry Joubert; Edgar Geer Russell; John Scully; Geoffrey Craythorne Hall; Adam Scott Reid; William Andrew Durnford Fasken, M.D.; Edward Lawrie; Joseph Wilson, M.D.; Edward Mulvany; John Manook Zorab; Russick Lall Dutt, M.D.; John Thos. Brownrigg Bookey; Alexander McGregor; James Young; Joshua Duke; John McConaghey, M.D.; Edward Palmer; Alfred Henry Williams; Robert Andrew King Holmes, M.D.; John Edward Charnock Ferris. Surgeon-Captains to be Surgeon-Majors (dated March 31st, 1892): Charles Pardey Lukis; Robert Richard Harvey Whitwell; Lawrence Austine Waddell; George Shewan Dhanjibhai Barjoeji Spencer; James Clarke, M.D.; Cooverjee Cawas jee Vaid; Philip Durrell Pank; Thomas Richard Mulroney, M.D.; Thomas Rankin Macdonald.

Madras.—Surgeon-Majors to be Surgeon-Lieutenant-Colonels (dated March 30th, 1892): Arthur Mudge Branfoot; William Edward Johnson, M.D.; Stanley Locker Dobie; George Frederick Bevan; Andrew Francis Dobson; Charles Little, M.D.; Thomas Mayne. Surgeon-Captains to be Surgeon-Majors (dated March 31st, 1892): Donald Frederick Dymott; Rustom Hormosji Cama; Winthropp Benjamin Browning; Cecil Henderson; Framji Ruttopji Divecha; Crosadaile Miller Thompson; Cubitt Sindall Rundle; James William Evans; Brigade-Surgeon-Lieutenant-Colonel Lewis Charles Nanney (dated May 23rd, 1892).

Bombay.—Surgeon-Captains to be Surgeon-Majors (dated March 31st, 1892): Henry Peers Dimmock and Charles

Bradley Maitland; Brigade-Surgeon-Lieutenant-Colone Isidore Bernadotte Lyon, C.I.E. (dated April 2nd, 1892).

MILITIA MEDICAL STAFF.—Surgeon-Lieutenant-Colonel M. Moore, 4th Battalion, Princess Victoria's (Royal Irish Fusiliers) resigns his commission; also is permitted to retain his rank and to wear the prescribed uniform on his retirement (dated June 25th, 1892).

NAVAL MEDICAL SERVICE.—With reference to the notice in the *London Gazette* of June 21st, 1892, the surname of Fleet Surgeon Henry Scott Lauder, placed on the Retired List, with permission to assume the rank of Deputy-Inspector-General of Hospitals and Fleets, is here correctly given and not as therein stated.

VOLUNTEER CORPS. — *Artillery:* 1st Sussex (Eastern Division, Royal Artillery): Surgeon-Captain W. S. Burrows to be Surgeon-Major (dated June 25th, 1892).—1st Cornwall (Duke of Cornwall's) (Western Division, Royal Artillery): Surgeon-Lieutenant R. T. Thomas, M.D., resigns his commission (dated June 25th, 1892).—*Rifle:* William Duncan Fraser, M.B., to be Surgeon-Lieutenant (dated June 25th, 1892).—1st (Inverness-shire Highland) Volunteer Battalion, the Queen's Own Cameron Highlanders: Walter de Watteville, M.B., to be Surgeon-Lieutenant (dated June 25th, 1892).—4th Volunteer Battalion, the Devonshire Regiment: Charles Edmund Russel Rendle, Gent., to be Surgeon-Lieutenant.

Correspondence.

"Audi alteram part. m."

"ASPIRATION IN PNEUMOTHORAX."

To the Editors of THE LANCET.

SIRS,—The paper by Dr. Sutherland in your last number (just come under my notice) suggests a very few remarks which, though very hurriedly written, I hope you may be able to insert, as the subject is one of importance. Perhaps the most successful case on record of paracentesis in pneumothorax is one which I published in 1865 and to which I can only now thus briefly refer Dr. Sutherland in the *Glasgow Medical Journal* for the above date, p. 165. In that case the patient was beyond doubt *in extremis* from suffocation and collapse, having been brought into the Royal Infirmary of Edinburgh by the police as a dying woman. It was before the days of aspiration becoming usual in this country, but not before I myself had been taught to aspirate by the late Dr. Bowditch of Boston, whose operations preceded those of Dieulafoy by twenty years or more. The chest in this case was punctured twice at an interval of a few days and each time with marked relief, but aspiration was not employed and according to my present judgment would not have been beneficial. The object in view was not at all to remove the whole or the greater part of the air, but only such amount as would come away through a very small-bore cannula, which was left *in situ* after insertion for two hours, so as to allow of the disturbed mechanical balance being readjusted. The air came away at first in such a blast as to blow out a taper over and over again; but after two such operations nature did the rest and so perfectly that there was no appreciable fluid effusion and the patient recovered. I think Dr. Sutherland will do still better in his next case *not* to aspirate, but to give time for the excess of air to come away. He says that on his first puncturing in his case "no air passed out." How did he ascertain this? It is easy to see that, when the aspirator was attached, "air was at once heard to pass into the bottle"; but my inference would be that if it would pass into the bottle thus it would also pass out without the aspirator to such an extent as was needful to relieve pressure. More than this should not, I think, be attempted, on the grounds so well put by Drs. Wilson Fox and Hilton Fagge.

I am, Sirs, yours truly,

Glasgow, June 29th, 1892. W. T. GAIRDNER.

To the Editors of THE LANCET.

SIRS,—In Dr. Sutherland's interesting and able account of a case of pneumothorax successfully treated by aspiration I note the following remark:—"In considering the question of aspiration one point must not be lost sight of—namely, that an attack of pneumothorax, by giving rest to the affected lung, may be a most effective therapeutic agent in phthisis." I am aware that this view is held by many and I believe that on similar principles some hold that pleuritic effusions in tubercular subjects are best left alone. In other words, the idea seems to be that a lung when collapsed either from the presence of air or fluid in the pleural cavity is in a condition of physiological rest, and is therefore better able to resist the inroad of tubercle than if it were working normally. I cannot help thinking that to regard a collapsed lung as an organ in a state of physiological rest and to consider collapse of a lung as in any way able to check the progress of phthisis is incorrect. When we speak of giving rest to an inflamed joint we mean absolute and complete immobility, and this is not incompatible with restoration of function. But is this so with the lung? The lungs take their rest between the acts of respiration, as does the heart between its beats. At no time does the physiological rest of the lungs amount to the condition of collapse. This physiological rest we attempt to secure by keeping the patient in bed, freeing him from excitement, quieting his circulation and reducing his temperature. I cannot see that we are justified in going further and depriving him, or allowing him to be deprived, of the use of his lung altogether. It seems little less than absurd to argue that a patient is better off without any working lung at all than he is with only a portion of it *hors de combat*. How is collapse of the lung supposed to check the spread of phthisis? Hilton Fagge says that the consequent anæmia of the part has this effect, but I have never yet seen a collapsed lung anæmic; on the contrary, I have always found it extremely vascular and congested with non-aerated blood. The circulation is doubtless less active in the collapsed than in the normal lung, but this would tend to confine the bacilli to the precincts of the collapsed part rather than to spread them into the general circulation, where we might hope they would find less comfortable quarters. What is the evidence on which it is thought that pneumothorax produces a beneficial effect on the progress of phthisis? It cannot be statistical, for the death-rate of pneumothorax in phthisis is from 50 to 90 per cent. It merely rests on the facts that in a few cases of recovery after pneumothorax the tubercular process has seemed quiescent, and that in some fatal cases the collapsed part of the lung has been the only portion found free from tubercle. But in the former cases we have no proof that the tuberculosis was not quiescent at the time of onset of pneumothorax, for pneumothorax is a pure accident and by no means an indication that the tubercular process is active at the time of its occurrence, whilst in the latter it is at all events probable that the collapse after pneumothorax of the only working portion of the lung was the actual cause of death.

In conclusion, I cordially agree with Dr. Sutherland that the best treatment in his case was the one which he adopted, and even at the risk of reopening a fistula I would do all in my power to favour re-expansion of a collapsed lung, whether the collapse be due to air, fluid, or both, in the pleural cavity.

I am, Sirs, yours obediently,

LEONARD G. GUTHRIE.

Upper George-street, W., June 27th, 1892.

"EX-CATHEDRA UTTERANCES *v.* SCIENTIFIC CAUTION."

To the Editors of THE LANCET.

SIRS,—In deprecating the admission of medical controversial matter into the lay press, THE LANCET of May 7th, 1892, uses the following remarkable phrase:—The writer regrets that scientific questions are not handled in the way in which men discuss them who "have acquired the spirit of caution which illumines the *savant*, but darkens the counsels of the ignorant!" How a spirit of caution can illumine one person and darken another is a problem not in my power to solve. The reason for this profound remark is a letter signed by one "Buggobutty Bose," which appeared in the *Bombay Gazette*. For all we know—or for that matter THE LANCET knows—to the contrary, Mr. B. B. may be a medical man; but however that be, his statement that to continue to employ a system which has been proved to be unsafe is criminal does not to my mind display ignorance. The point at issue is: Which of the two systems of administering chloroform shall be adopted, the Edinburgh or the London system? Is the respiration to be watched or the pulse? Mr. B. B. says that the Hyderabad Commission has proved that to "take the pulse as a guide to the effect of chloroform is unsafe." If it is

unsafe it would be criminal to use it. What is it precisely that the Hyderabad Commission has proved? It has proved conclusively that as long as chloroform is given in a diluted form, with perfectly regular respiration and is not pushed after anæsthesia has set in, there is no possibility of the heart being affected. When the heart is affected it is by interference with the breathing or by an overdose, whether directly or indirectly need not at present matter. Therefore to take the pulse as a guide for the effect of chloroform is to watch for results which, under proper administration, cannot occur and when they do occur are proofs that there has been maladministration. Without entering into the argument as to whether the respiration or the heart stops first, the Hyderabad Commission has proved that if the above conditions are fulfilled *and the breathing remains regular* there can be no possible danger. To watch the breathing, therefore, is the only safe way to ensure that condition in the patient which is absolutely essential and necessary for his safety. As soon as the pulse gives a signal of danger I maintain that safe limits have been overstepped and one or perhaps all the rules laid down by the Hyderabad Commission have been broken. Let anyone show me a single case in which these rules having been strictly followed the pulse has shown a sign of danger. This is the point between me and my opponents and until they can prove this no amount of assertion will avail. Under the London system of chloroform administration deaths are constantly occurring, whereas we can show a clean record without a single death during forty-five years. This is a plain hard fact which no argument can get over, and if Mr. B. B. understands that to follow a method under which deaths occur and to neglect a method which is free from deaths and danger is criminal, he is a person of sound common sense, whether he is a layman or a professional. The writer in THE LANCET says that the practice of the London anæsthetists has been more than once put before the profession in its columns and he again repeats that their system is to watch the respiration *as well as* the pulse. Our system is to watch the respiration only and the difference is irreconcilable. If we watched the pulse we should stultify ourselves by looking for effects which cannot be produced unless the patient's breathing has been obstructed or he has been poisoned by an overdose. We have had no deaths because we have no overdoses, and it is by watching the respiration only and never allowing the patient to inhale anything but air when it is irregular that we prevent their possibility. There is no necessity on this occasion to discuss the manner in which the overdose takes effect, whether by respiratory narcosis or by cardiac syncope. All we contend is, administer according to our system and there will be no such thing as an overdose. Mr. B. B. advances no "charge of wholesale crime against the bulk of the profession," as the writer in THE LANCET says. But until these facts are controverted I agree with him that in future it will be criminal to watch the pulse. Nor is it the large bulk of the profession that follows the unsafe and dangerous system. It is, as THE LANCET shows, the London anæsthetists who "consistently" do so. Unfortunately, they are the teachers of the English schools and consequently the evil is widespread and will be difficult to eradicate.

I am, Sirs, yours obediently,

EDWARD LAWRIE,
Surgeon-Lieutenant-Colonel.

May 29th, 1892.

*** Surgeon-Lieutenant-Colonel Lawrie's remarks upon our annotation are simply a reiteration of his views. Some experimenters refuse to admit his results and English chloroformists naturally decline to accept his statements that they do not know how to give chloroform. Deaths, moreover, have occurred both in Scotland and England when Syme's rules have been faithfully followed. We can therefore only repeat that at present it behoves all concerned in this controversy to adhere strictly to the methods of science and avoid *ex-cathedrâ* statements or arguments based on premises which are themselves at present *sub judice*.—ED. L.

THE MEDICAL PROFESSION IN PARLIAMENT.

To the Editors of THE LANCET.

SIRS,—In your first leading article of to-day's issue you refer to the politics of the immortal Sydenham in such a way as to give the impression that Sydenham as a physician took part in politics; you include him in the list with Harvey Arbuthnot and Meade. As everything connected with Sydenham is of deep interest you will forgive me for saying that there is no evidence that Sydenham the physician was even remotely connected with politics. Prior to meeting Dr. Thomas Coxe he was, like his brothers William and Francis, a very pronounced Parliamentarian and like them took up arms for "the House and the Wood." But the fight for liberty practically ended with the surrender of Charles I. in 1646, fifteen months after which he was beheaded. Sydenham took his M.B. in 1648 and he was not admitted to the licence of the College of Physicians until June 25th, 1663, from which time, until his death in 1689, his name does not occur in politics. He was, unlike Willis or Harvey, who were both politicians and physicians, like his friends Havers and Glisson—when he put his hand to the plough he did not look back. His character is summed up in the quotation he selected for his "Medical Observations": "Whatsoever thy hand findeth to doe, doe it with all thy might; for there is no work, nor devises, nor knowledge, nor wisdom in the grave, whither thou goest." In medicine Sydendam found a soul-satisfying study and to-day the civilised world benefits by his undivided love for the profession he adopted and adorned.

I am, Sirs, yours truly,

GEORGE FOY, F.R.C.S.I.

June 25th, 1892.

*** Mr. Foy has misread our article. That Sydenham took an active personal part in politics after he had become an eminent consultant we never asserted. That he was an example of Coleridge's remark that every man is born a Parliamentarian or a Royalist we did assert and we still maintain. His was essentially an innovating and reforming mind, not more so when he served as an officer with the forces of the Parliament than when, in his fortieth year, he, as "an innovator and something of a plain dealer," denounced to Mapletoft those "qui vitio statim vertunt si quis novi aliquid in medium proferat." His whole mental attitude and inclination was liberal, in perennial conflict with official conservatism and tradition, professional or lay. To deny this is to misunderstand Sydenham—the Sydenham of John Locke's noble elegiacs, the Sydenham of every biographer of him, from Dr. Samuel Johnson to Dr. John Brown. Mr. Foy will find an even more trenchant opinion than ours as to Sydenham's bias in politics in the appendix to the late Dr. King Chambers's Harveian oration (author's edition). That in Parliament he would have sat opposite to William Harvey who can doubt? We never hinted that "Sydenham the physician took part in politics." Our whole contention was that the political career should be reserved for those of the profession who had graduated without intention to practise, or who were in the position of emeritus practitioners, retaining full possession of their powers and willing to devote their experience and their leisure to the good of the body politic.—ED. L.

"THE VACCINATION EGG."

To the Editors of THE LANCET.

SIRS,—The confirmation of Jenner's observations as a naturalist, which formed the subject of your leading article last week, is the latest, but it is not the one that is best known. Another confirmation made in 1871 was published in *Nature* (vol. v., p. 382), which is even more interesting as bearing out Jenner's original account in its most distinctive and most minute points and as having served to convince Darwin, who introduced a paragraph into his latest revision of the "Origin of Species," calling it "a trustworthy account of a young cuckoo, which was actually seen, whilst still blind and not able even to hold up its own head, in the act of ejecting its foster-brothers." To show how closely Mrs. Blackburn's account agrees with that of Jenner I have written a few sentences from each in parallel columns. The original observations were made near Berkeley on June 18th, 1787; the confirming observations in Argyllshire in June, 1871. In the former case a hedge sparrow's nest contained when first seen two of the bird's own eggs with one cuckoo's egg, and next day the newly hatched cuckoo and one newly hatched hedge sparrow; in the latter case a meadow pipit's

nest when first seen had two partly fledged pipits with one cuckoo's egg and next day the newly hatched cuckoo only, the two young pipits, which were several days old and open-eyed, having been found lying on the bank at a distance of ten inches from the nest. They were put back, being still alive, and then ensued the events which are related in the right-hand column :—

Jenner's account, "Phil. Trans.," 1788, p. 225.

"The mode of accomplishing this was curious: the little animal, with the assistance of its rump and wings, contrived to get the bird upon its back and making a lodgment for the burden by elevating its elbows clambered backward with it up the side of the nest till it reached the top, where, resting for a moment, it threw off its load with a jerk and quite disengaged it from the nest.

"It remained in this situation a short time, feeling about with the extremities of its wing, as if to be convinced whether the business were properly executed and then dropped into the nest again."

Mrs. Blackburn's account, "Nature," vol. v., p. 382.

"The newly hatched cuckoo struggled about till it got its back under one of them, when it climbed backwards directly up the open side of the nest and pitched the pipit from its back on to the edge. It then stood quite upright on its legs, which were straddled wide apart, with the claws firmly fixed half-way down the inside of the nest, among the interlacing fibres of which the nest was woven and stretching its wings apart and backwards it elbowed the pipit fairly over the margin.

"After this the cuckoo stood a minute or two, feeling back with its wings as if to make sure that the pipit was fairly overboard and then subsided into the bottom of the nest.

"All this, I find, accords accurately with Jenner's description."

Dr. Norman Moore, in his Life of Jenner in the "Dictionary of National Biography," has called attention to the fact that the well-known naturalist Waterton, the author of "Wanderings in South America" and "Essays on Natural History" (both edited by Dr. Moore, with an excellent biography of the author), had rejected Jenner's narrative as incredible. "The young cuckoo," wrote Waterton, cannot by any means support its own weight during the first day of its existence. Of course, then, it is utterly incapable of clambering rump foremost up the steep side of a hedge sparrow's nest with the additional weight of a young hedge sparrow on its back. The account carries its own condemnation, no matter by whom related or by whom received." It is singular that Waterton, who was well known to be a strict Roman Catholic, should have actually used Hume's famous argument on miracles in order to discredit a fact in natural history which was generally accepted by naturalists at the time of his writing (1836). It is more probable, he implies, that the witnesses should have been deceived than that the events should actually have taken place. But he would not have argued so concerning the events which Hume thought incredible, nor even concerning ecclesiastical miracles of much more recent date. Dr. Norman Moore, as in private duty bound, backs up Waterton and calls Jenner's narrative of the young cuckoo an absurdity. He has also found a passage in Baron's "Life of Jenner" which leads him to think that the merit (or demerit) of the observations really belongs to Henry Jenner, then a lad, who was set to watch the cuckoo's nest and to report to his uncle. Baron's statement (vol. i., pp. 85, 86) is no doubt to that effect; but why should we assume with Dr. Norman Moore that Henry Jenner "gave an imaginary account"? Why should not a lad be a competent witness? Darwin was at length satisfied with the testimony of a lady, a talented artist. The testimony of the gentleman at Oatlands in 1886 was in your opinion strengthened by that of his sister and of another lady. Nor is it certain that Jenner was dependent to the extent that Baron implies on the reports brought to him by his nephew? For in relating the successive steps of the ejectment in his letter to the Royal Society he uses four times the expression, "I saw," or its equivalent.—I enclose my card and I am, Sirs, your obedient servant,

M. N. O.

June 27th, 1892.

BOVINE TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—With reference to your article upon the probability of bovine tuberculosis being transmitted to man through eating the flesh or by drinking the milk &c. of such diseased animals, I desire to point out to you the fact that at least one-third of the Kaffir diet in Africa consists of sweet and sour milk, that the flesh of cattle dying of all sorts of diseases—including those dying of tuberculosis—is devoured both in a well cooked as well as in a half raw state by the natives; yet phthisis is a rare disease amongst either the adult or infantile native population; indeed, from a long intimate association with the natives of South Africa I have never met with any cases of disease traceable to the circumstance you so alarmingly describe as daily happening in the British Isles. That phthisis does exist amongst the bovines of South Africa is tolerably well known by those who have studied the subject. It will also be borne in mind by you that the "raw" native uses little clothing, but plenty of red clay, lives in ill-ventilated huts and when not in them (the huts) spends most of his daily life in the open. I am, Sirs, yours obediently,

Herschel, South Africa. S. CARTWRIGHT-REED, M.D.

THE FRENCH WORKMEN'S SANITARY CONGRESS.

(FROM OUR SPECIAL CORRESPONDENT.)

IT is now definitely decided that the French Workmen's Congress of Hygiene will meet on July 3rd and terminate its labours on July 10th. We have already described the nature and origin of this Congress. It is organised by the Possibilist Party, the most influential of the various factions in which the Labour Party of France is divided. This party has determined that it will try and effect some immediate improvement in the condition of the working classes and for once leave abstract theories of social justice aside, so as to secure for the living generation practical advantages. No legislative or political question offered a better field for such action than the broad issues raised by sanitary reformers. It has already been explained that the Sanitary Workmen's Congress was to be preceded by a series of six lectures and we described the first of these lectures delivered by Dr. Dujardin-Beaumetz on Food. The five other lectures have also been delivered and proved most successful. They were each attended by more than a thousand workmen, all representative men, who listened with such rapt attention and showed such enthusiastic appreciation of what was taught by the eminent lecturers that some of the lectures were prolonged for more than two hours. What is more remarkable is the fact that the more scientific the lecture became the more it was appreciated. When dealing with more purely workmen's questions, such as factory legislation, the attention was not so marked, but it became intense when the lecturers described the chemistry of food, the circumstances that affected the quality of mothers' milk and the vital statistics that demonstrated the fatal consequences of bad sanitation. These lectures are being published in the cheapest form, so as to be accessible to the working classes and the most scientific lectures command the best sale. This is a fact well worth noting, for it shows the determination of the more intelligent working men to acquire a scientific basis for their opinions. A large number of the workmen who attended these lectures have also visited the municipal laboratory, where methods of detecting the adulteration of food were shown. The question of adulteration proved very interesting and fraudulent practices in providing alimentary supplies would be suppressed with no light hand if the working classes alone had to decide such questions. The disinfecting station, the sewers, the sewage farm and other places of interest as bearing on public health have been visited by hundreds of workmen during the last few weeks. They were always accompanied by engineers or others who could give full explanations.

Now that the period of instruction is nearly completed, the workmen who have followed these lectures and these investigations are discussing in their respective societies how the knowledge they have acquired can be practically applied. The various trades unions and other workmen's societies belonging to the Possibilist Party are busy drawing up reports and proposals which they will present at the forthcoming Congress. A Commission on each subject will be appointed to study these reports and proposals, take the best points out of them and combine them all in one single report and one set of resolutions. Then discussions will follow and

we shall see to what extent the labour organisations of Paris have profited by the lessons they have had and how they propose to deal with those sanitary problems which in France at least have in the main been discussed only by experts. Apparently the workmen are well satisfied with what scientific men have told them. They do not wish to go any further; they accept what they have been taught, they only demand that the moral of the lesson should be enforced by suitable legislative enactments. The approach of this original style of congress—for I am not aware that in any country workmen have held a sanitary congress—has attracted a great deal of public attention. The French press has given it wide publicity and in the country several municipalities have decided to encourage this effort. The Municipalities of Lilles, Blois, Angers, Tours and Châtellereault have voted subventions to enable the workmen of these towns to send delegates to the Congress. From abroad also expressions of sympathy and interest have been received. Though the Congress is a purely national gathering, foreign representatives will be welcomed with great cordiality as honoured guests. There is no doubt that a large number of trade unionists would be present but for the general elections which will take place in England just at the time the Congress will meet in Paris.

Paris, June 26th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Notification of Infectious Diseases.

A CASE was heard last week before the Tynemouth Petty Sessions which shows how careful practitioners should be not to place themselves in a false position by inattention to the requirements of the Infectious Diseases Notification Act. The defendant (a qualified man) was summoned at the instance of the Tynemouth Rural Sanitary Authority for not sending to the medical officer of health of the district a certificate notifying that a child was suffering from typhoid fever. The defence was that the child was not suffering from typhoid fever and that if it was the fever was over when the practitioner was called in. The magistrates, however, decided from the evidence that the case was one of typhoid fever and therefore inflicted a fine of 20*s.* and costs, the latter, it is said, amounting to three guineas. The father of the child was also summoned for not reporting the case, but, pleading ignorance of the law, got off by paying costs.

Typhoid Fever at Northallerton.

There is said to be an alarming epidemic of typhoid fever at Northallerton and it has been decided to ask the Local Government Board to hold an inquiry into the cause of the outbreak as soon as possible. The worst of these inquiries is that it is generally so long before the reports come out that they are of little or no use in the way of affecting an epidemic, but the people of Northallerton should in the meantime bestir themselves to get at and remove the cause.

Carlisle.

The outbreak of typhus fever which caused such alarm a few weeks ago is not yet stamped out, a fresh case being reported, a female, who had been in almost daily contact with other cases. The medical officer of health has recommended that the period of convalescence should be extended to that usually recognised as necessary—namely, four weeks—some of the patients having been discharged after a little over three weeks, which he considered too short and unsafe. As to the water-supply of Carlisle, an informal examination has been made of the water of the upper reaches of the Caldew, which was found to be pure and free from organic contamination and a favourable impression was made as well as to the quantity which could be obtained, for practically there is no limit to the storage capacity of the watershed when the country above Mosedale and Skiddaw Forest is taken into account. The water will, however, have to be carefully examined and tested as to its action on lead.

Small-pox on Tees-side.

Dr. Malcomson, the medical officer of health for Middlesbrough, has reported five cases of small-pox since its last meeting to the committee of the Middlesbrough Fever Hospital, one of which was the fatal case of the Spanish seaman previously noted and of the others three were from Stockton; these were all from one house, were very bad cases, and were all unvaccinated. The fourth case was that of a shopman who had probably contracted the disease in the course of his business.

Darlington: Curious Meteoric Phenomena.

At the last meeting of the Darlington Naturalists' Field Club some fragments of stone were exhibited which were observed to fall in numbers on the flags of the High-row, one of the principal thoroughfares of the town, during one of the late severe thunderstorms. The fragments were the size of a horsebean and presented some evidence of having been fused. The *Northern Echo* says they were handed over to Mr. Stock, F.C.S., county analyst, for examination.

A Medical Missionary Society for Newcastle.

It is proposed to form a medical missionary society for Newcastle and a circular has been issued to the profession calling a meeting for next Thursday at the College, at which Professor Philipson is announced to preside and Dr. Henry Martyn Clark, who has had considerable experience in medical missionary work in the Punjaub, will give an address.

Match-poisoning at South Shields.

A case of poisoning by phosphorus is reported from South Shields. A married woman, having steeped some lucifer matches, drank the infusion and then told her husband. Medical aid was at once sought and the stomach-pump was used—it is hoped with effect—but she is still in a precarious state.

The Tyne and Norway.

We have now steamers running every day to and from Norway, making the North Sea a regular ferry. The fine Atlantic steamer the *City of Richmond* goes on regular fortnightly cruises. Last week she went off from the Tyne with her full complement of 260 cabin passengers. On Saturday a very large party of Americans arrived in Newcastle, *en route* to Norway. I mention this in case any of your readers are thinking of crossing from the Tyne, that they may make their arrangements in good time to save disappointment, as the Tyne is a favourite route. It is calculated that 20,000 persons crossed last year and this year I hear that the number is likely to be even more.

The guardians of the Easington Union, county Durham, have decided to build a new infirmary at the workhouse forthwith. The cost of its erection will be about £5000.

The committee of the Gateshead Children's Hospital have received a further gift of £250 from the executors of the late Mr. J. Glenton, of this city.

Newcastle-on-Tyne, June 29th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Edinburgh Medico-Chirurgical Society.

A SPECIAL meeting of this Society was held last week and was devoted to a discussion on pernicious anæmia, introduced by a long paper by Dr. Brakenridge on the treatment of the disease by the transfusion of human blood. The results recorded were very striking and extended over a period of about seven years. Dr. Affleck also gave notes of a case he had treated in this way with remarkable success. A long discussion followed in which the pathology and treatment of different forms of anæmia were considered and also the best method of performing transfusion and the precautions to be used. The paper and the discussion which it evoked will probably determine a new departure in the treatment of the hitherto incurable cases of the disease.

The Edinburgh Water-supply.

The committee of the Edinburgh and District Water Trust appointed to consider the report of the engineers upon the water-supply of the city have, it is understood, drawn up the following recommendations: (1) That the Deacon metre should be more largely used to check waste; (2) that the Trust should have power to regulate the water fittings; (3) that application should be made to Parliament for a Bill for the introduction of a new supply.

The Vole Plague in Scotland.

The committee appointed by the Board of Agriculture to investigate this matter has had one or two meetings. At one of these Professor MacFadyean said he thought the plan of Loeffler feasible and it would be well that an application should be made to him for the means of making the experi-

ment. It will be remembered that Loeffler's method of destroying the animals is by contaminating their food with an organism which is specially fatal to them and not to other mammals.

The Health of Edinburgh.

The mortality last week was 82, making the death-rate 16 per 1000. Diseases of the chest accounted for 30 deaths and zymotic diseases for 7. The intimations for the week were—typhoid fever 12, diphtheria 2, scarlet fever 35, and measles 67.

June 28th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

University of Dublin.

COL. LOWRY is a candidate for the representation of the University at the general election. In his address to the electors when referring to the medical graduates, who form a considerable portion of the constituency, he states that the medical profession has a special claim upon the representatives of the University, for unlike the legal profession very few of its members have seats in the House of Commons. The dispensary medical officers in Ireland he acknowledges have long had reason to complain of their position in regard to both their duties and their pensions, and he promises if elected to give his special attention to the interests of this large and important body. Mr. Carson, Q.C., his opponent, takes somewhat similar views as regards the grievances of dispensary medical officers.

Parliamentary Medical Representation.

The question of parliamentary medical representation has engaged the attention of the Council of the Irish Medical Association and at a special meeting held last week to consider the matter, the following resolutions were unanimously adopted:—"That the Council of the Irish Medical Association having considered the question of special parliamentary representation for Irish Poor-law medical officers, and having had the advantage of hearing the views of the deputation which attended from the Irish Parliamentary Representation Committee, hereby approves the action of that committee, and cordially recommends the movement to the members of the association and the medical profession in Ireland. That the Irish Parliamentary Representation Committee be requested to keep this Association informed as to its proceedings. That the Executive Committee of the Irish Medical Association be instructed to make immediate inquiry from each parliamentary candidate as to his views on the redress of Poor-law medical officers' grievances."

Mr. Kenny, M.P., coroner for the city of Dublin, will be a candidate for one of the Dublin divisions at the coming election.

County Galway Census.

The population of the County Galway has decreased since the last decade by 11·5 per cent. The number of persons receiving Poor-law relief has increased from 1 in 66 to 1 in every 52 of the population. The births registered during the ten years amounted to 50,347, a number equal to 22·0 per 1000; the average rate for the whole of Ireland being 23·2. The deaths were 31,998, equal to 14·0; the rate for the entire country being 17·8.

The late Dr. Robert McDonnell, F.R.S.

A bust of this eminent surgeon, by Mr. Bruce Joy, the well-known sculptor, will be unveiled at the Royal College of Surgeons during the Tercentenary of Trinity College.

June 28th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Extirpation of the Liver in Frogs.

THE removal of the liver does not in the frog involve an immediately fatal issue, as is the case in mammals. The duration of the survival is, however, a question upon which physiologists differ, Müller maintaining that death supervenes in three or four days, whilst Moleschott states that the liverless frog does not succumb until as many weeks have elapsed. M. Roger has investigated this point and finds that of two frogs deprived of their livers one which is placed in a vessel containing water which is not renewed dies in three or four days, whilst the other, which is kept in water maintained at a uniform temperature and which is constantly renewed, lives for a period varying from eight to fourteen or even twenty days. The explanation is easy. The functions of the liver being suppressed, extra work is thrown on the kidneys to eliminate the products of metamorphosis. When the animal is placed in stagnant water these excreted products are reabsorbed and the frog dies poisoned sooner than is the case with the frog kept in a running stream.

Death of the Inventor of the Hypodermic Syringe.

The ordinary hypodermic syringe is known in France as the "seringue de Pravaz," the instrument having been invented by Dr. Pravaz of Lyons. The death of this gentleman is announced in this week's journals. He was the director of an orthopædic establishment in the silk capital and was well known as a *médecin orthopédiste*. In England the practice of hypodermic medication is generally associated with the name of Dr. Alexander Wood of Edinburgh.

Therapeutics of Typhoid Fever in the Paris Hospitals.

There exists in Paris, as in London and other medical centres, much divergence of opinion as to the efficacy of cold baths in the treatment of enteric fever. This method is attributed in this country to Brand of Stettin, although it had been advocated nearly a century ago by our own countryman, Currie. Dr. Jubel-Rénoy has just communicated to the Société Médicale des Hôpitaux the result of an inquiry he has conducted into this question. For this purpose he applied to eighty colleagues, forty of whom replied. Of these hospital physicians fourteen disapprove of the systematic employment of the cold bath. Twelve, on the contrary, are enthusiastic believers in the method which they apply indiscriminately to all cases, whether they be light or severe in character. Two believe in tepid baths gradually cooled down and eight, while approving generally of cold baths, impose certain restrictions. Of 175 cases treated by the adversaries of the method, 25 died, giving a mortality of 14·2 per cent. Thirty-nine cases treated by the method, with restrictions, yielded one death, or 2·56 per cent. In Professor Bouchard's wards, where progressively cooled tepid baths are in fashion, 54 out of 554 cases died, or 9·74 per cent. The advocates of systematic cold baths lost 40 out of 492 cases, or 8·13 per cent. M. Juhel-Rénoy concluded his paper by expressing his opinion that the introduction of balneotherapy into typhoid fever wards had been the means of reducing the mortality from that disease at least 5 per cent.

Paris, June 29th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Twenty-first Surgical Congress.

AT the last sitting of the Surgical Congress, Professor Julius Wolff of Berlin showed a man whose larynx had been completely extirpated and replaced by an artificial one made by the mechanician, Oehmke. The man spoke so loudly and distinctly that he was heard in all parts of the hall. He can even sing a little. The artificial larynx gives him little inconvenience and he can easily change it at will. Schmidt of Cuxhaven spoke on the total extirpation of the popliteal aneurysm and on a congenital bending of the cartilage of the epiglottis. Professor Olshausen of Berlin discussed the total extirpation of the uterus for cancer and showed about forty preparations. He maintained that this operation ought to be much more frequently performed than it is. His opinion is based on experience of many hundreds of cases. Several members, including Thiem of Kottbus, expressed their agreement with him. Török of Vienna, Braun of Königsberg and Eyselsberg of Vienna spoke on primary sarcoma of the small intestine, Schüller of Berlin on the application of the sculptor's chisel to bones and joints, especially in tuberculous diseases; on chronic rheumatic inflammations of the joints and on cases of osteotomy. Riedel of Jena showed hammers and chisels made of Mannesmann tubes. Thiersch's assistant, Urban of Leipsic, spoke on a new operation successfully performed by Thiersch for compression of the spinal cord by displacement of the bodies of the vertebræ. Under the diseased part a horizontal cut is made to the vertebral column and two cuts on both sides of the column and parallel with it upwards from the ends of the horizontal cut to above the diseased part. From these vertical cuts the column is then chiselled

on both sides, till one can fold the upper half of it, with the skin and muscle-flaps, upwards and thus expose the spinal cord. One then removes the parts of the vertebræ which cause the compression and closes the column again. Philipp of Berlin reported his very favourable experience of pental as a narcotic for children, Schede of Hamburg his much less favourable experience of the same narcotic in adults. Schleich of Berlin spoke on local anæsthesia. He has tried to produce anæsthesia by injecting not only cocaine but also other substances into the tissues. He succeeded with chloride of potassium, common salt, sugar and even with distilled water. He resorts to general narcosis only when local anæsthesia proves impracticable or inadequate. Körte of Berlin spoke on the surgical treatment of purulent peritonitis and Lauenstein of Hamburg on agglutinations and omental cords in the abdomen as the cause of very severe colic. The meeting was then closed and three cheers for the chairman were proposed by Esmarch and given by the assembly.

Koch's Tuberculin.

The preparation and sale of Koch's tuberculin, which have hitherto been in the hands of Dr. Libbertz, will be transferred on the 1st prox. to the great chemical works (formerly Meister, Lucius and Brünning) at Höchst, near Frankfort-on-the-Maine. The fluid will continue to be tested by Dr. Libbertz, who will remove to Frankfort.

New Material for Medical History.

The well-known Berlin professor of church history, Adolf Harnack, a brother of the professor of medical chemistry at Halle and a son-in-law of the celebrated Leipzig surgeon Thiersch, has collected and published everything connected with the art of healing met with by him in writings bearing on ancient church history. The name of the work, which is dedicated to Thiersch, is "Medizinisches aus der ältesten Kirchengeschichte" ("Medical Matter from the Oldest History of the Church").

New Publications.

"Cesare Lombroso and the Natural History of Crime," by Dr. Kurella, published in the 147th number of the "Collection of generally Intelligible Scientific Lectures," edited by Rudolf Virchow and Wilhelm Wattenbach; "Tone Deafness and Instruction in Music," by Dr. Kunn; "The Progress of Cremation in Germany," by Baron Engerth; the "Successful Treatment of Influenza by Hypnosis," by Dr. Grossmann; "How to kill Bacilli and cure Phthisis," by Ferdinand Koenig of Halberstadt.

Surgeon-General Roth.

Surgeon-General Dr. Wilhelm Roth died at Dresden on June 13th. He published "Studies of an Army Surgeon" on the camp of Chalons, medical affairs in Belgium, Hanover and England and military medicine at the Paris Exhibition, a "Handbook of Military Hygiene," "Studies on Official and Voluntary Care of the Sick" and the "Elements of Physiological Anatomy for Teachers of Gymnastics." He wrote in periodicals on the English sanitary service in the Abyssinian expedition, the Dutch sanitary service in the war against Atchin, the Russian sanitary service in the Turkish War, military magazines in war and military medical exhibitions and necrological notices of eminent medical men. He was born in 1833, studied in Berlin, graduated in 1855, went to the Frederick William Institute in Berlin as staff surgeon in 1861, was appointed to teach in the Central School for Gymnastics in 1863, promoted to the rank of surgeon-major in 1867 and appointed to teach in the Academy of War. In 1870 he was appointed surgeon-general and corps-surgeon of the Saxon Army Corps.

Berlin, June 28th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Ontario Medical Association.

THE twelfth annual meeting of the Ontario Medical Association was held in Toronto, June 1st and 2nd, under the presidency of Dr. Richard A. Reeve, Toronto. At the general sessions there was a series of discussions as follows:—Obstetrics: The Third Stage of Labour, led by Professor A. H. Wright. Medicine: Diphtherin, A. S. Fraser. Surgery: The Present Status of Antiseptics in Surgery, R. B. Nevitt. Rhinology: Hay Fever, A. B. Welford. Therapeutics: The Therapeutics of Constipation, J. C. Mitchell. The president of the American Medical Association (Dr. H. O. Marey, Boston) was with us and addressed the Association upon the Anatomy and Surgical Treatment of Hernia. Among the cases presented was one of Landry's Paralysis (Dr. Powell, Toronto), the patient, a man, having regained to a limited degree the power of locomotion. There were over 200 practitioners in attendance at the meetings.

Medical Officers of Militia.

The surgeons attached to the various militia corps of Canada formed recently an association to be known as "The Association of Medical Officers of the Militia of Canada." Its objects are briefly as follows: (1) The bringing of medical officers in closer relation and the development of a departmental *esprit de corps*; (2) the discussion of matters relating to the medical department of the militia; (3) the discussion of military matters from a medical standpoint; (4) the reading of papers on military medicine, surgery, &c. The first annual meeting was held at the time of the meeting of the Ontario Medical Association, under the presidency of Dr. F. W. Strange. Papers were read by Dr. Warren on Ambulance Work during the Franco-Prussian War and by Dr. Daniel Clark, once Inspector of Surgeons in the United States Army, on Some Brain Wounds, with Results.

Victoria Hospital for Sick Children.

The Victoria Hospital for Sick Children was formally opened last month by Mr. J. Ross Robertson, president of the board of trustees. This handsome and commodious building has cost £30,000 and is perhaps the most complete of its kind in America. The only thing to be regretted is that there still remains a debt of about £20,000, the existence of which must cripple its usefulness.

Victoria University.

The last convocation of Victoria University was held last month in Cobourg. Upon the reopening of the College in October next lectures will be given in the new buildings in this city and it will become federated with the University of Toronto, having seven representatives upon the Senate of the latter institution, the charter of the Victoria University not being set aside, but simply held in abeyance during the continuance of federation.

Canadian Qualifications.

IN THE LANCET of April 30th appears a notice of an inquest, at which one T. J. McDonald is quoted as stating he held the degree of M.D., C.M. of the University of Toronto. Such cannot be the case, as the University of Toronto confers only the degrees M.B. and M.D. There does, however, appear upon the roll of graduates of Victoria University the name T. J. McDonald, 1886, M.D., C.M.; but the name does not appear upon the roll of licensed practitioners of the College of Physicians and Surgeons of Ontario, the holding of a University degree in Ontario not being a qualification to practise, the licence of the above-named College being the *sine quâ non*.

Obituary.

SIR WILLIAM AITKEN, M.D., LL.D., F.R.S.

THIS distinguished physician and author, who had long been the subject of renal disorder, succumbed to its effects after some weeks of suffering on the morning of June 25th. The usual indications of uræmia, succeeded by an attack of syncope, were the immediate precursors of the fatal event. Sir Wm. Aitken was the son of a medical practitioner in Dundee, Forfarshire, and was born there on April 23rd, 1825. He was educated in the High School of his native town and on leaving school was apprenticed to his father, at the same time that his friend, now Sir Andrew Clark, Bart., was apprenticed to another practitioner in Dundee. While serving as an apprentice to his father he was a constant attendant in the wards of the Dundee Royal Infirmary. In November, 1842, he matriculated as a student in the University of Edinburgh and after attending classes in the Faculty of Arts and passing through the medical curriculum he graduated as Doctor of Medicine in August, 1848. At the graduation he received a gold medal for a dissertation on a pathological subject. In the same year he became a Licentiate of the Royal College of Surgeons of Edinburgh. In October, 1848, he became associated with the late Dr.

Allen Thomson, professor of anatomy in the University of Glasgow, as Demonstrator of Anatomy and he continued to hold that office, as well as the office of Pathologist to the Royal Infirmary, up to the year 1855.

In the year 1855 Dr. Aitken was appointed by Lord Panmure, then Minister for War, to proceed to the seat of war in the East as "first assistant pathologist" in association with the late Professor R. D. Lyons of the Catholic University, Dublin, to investigate the nature of the diseases from which the troops in the Crimea were suffering and which at the time were filling the hospitals on the Bosphorus with patients. The outcome of these investigations was a valuable report which was presented to Parliament and printed by order in the year 1856. It appeared in the form of a Blue-book of 120 pages bearing the signatures of Drs. Lyons and Aitken, and has since formed an important work of reference on the subject of the diseases which proved so terribly fatal to the British army in the early period of the Crimean War.

In the beginning of the year 1860 Dr. Aitken was selected by the Secretary of State for War, the Right Hon. Sidney Herbert, afterwards Lord Herbert, for the post of professor of pathology in the Army Medical School which was about to be established at Fort Pitt, Chatham. The school was opened in October of the same year and from that date until the month of April of the present year he fulfilled the duties of that office. The fast declining state of his health then compelled him to seek leave of absence. This was granted and at the same time it was arranged that he should finally retire from the professorship at the close of the session in July. But, alas, his own end has anticipated this arrangement.

In 1873 Professor Aitken was elected a Fellow of the Royal Society and in August, 1887, the honour of knighthood was conferred on him by the Queen at Osborne on the occasion of Her Majesty's Jubilee. In April, 1888, the University of Edinburgh conferred the degree of LL.D. (*honoris causâ*) on Sir Wm. Aitken and in August of the same year the University of Glasgow conferred a similar honour upon him. In the following year his portrait, painted by W. R. Symonds, which had been subscribed for by members of the military medical services, was presented by the subscribers through the Director-General, Sir Thomas Crawford, K.C.B., to the Army Medical Department. It is now on the walls of one of the mess-rooms belonging to the Medical Staff at Netley. An enlarged portrait photograph also exists among the British Museum of Portraits at South Kensington.

As a practical pathologist Sir Wm. Aitken occupied an almost unrivalled position. No one who attended his post-mortem demonstrations prior to the time of his failure in health can forget the admirable precision with which he proceeded, step by step, to unfold to view the anatomical structures and internal organs of the subject before him, to indicate and expound every departure, however minute, from their normal condition and aspect, or the masterly way in which he would connect the pathological changes presented to notice with the previous history and symptoms of the disease which had led to the death of the patient in the case under observation. They were impressive lessons, conveyed through the eye and the ear, which could not readily be forgotten by any of the medical officers who were present at his demonstrations. For some time prior to his decease Sir Wm. Aitken had been engaged in writing a descriptive catalogue of the preparations in the celebrated Pathological Museum belonging to the Army Medical Department, which is now located at Netley. He had completed a first volume, and the fact that the undertaking cannot now be accomplished by one so thoroughly conversant with the museum and its contents and so admirably fitted to describe them is a matter most deeply to be regretted. The break in the work is not merely a misfortune for the Army Medical Service, but is a real loss to the general stock of medical science. Sir Wm. Aitken was a warm-hearted sincere friend, upright and honourable in all his views and dealings and a most loyal colleague. The writer of this brief notice never heard of his having an enemy; his friends seemed to be all who had ever known him.

In conclusion, the titles and dates of some of his numerous publications on pathology and the science of medicine may be briefly mentioned:—1849: "On Inflammatory Effusions into the Substance of the Lungs as modified by Contagious Fevers." 1857: "On the Diseases of the Troops in the East during the Russian War and on the Climate of Scutari on the Bosphorus." 1857: "On the Persistent and Pernicious Influence of the Residence in Bulgaria on the Subsequent Health of the British Troops in the Crimea." 1857: "On conducting Post-mortem Examinations at Coroners' Inquests." 1857: "Critical and Analytical Review of Recent Works on the Pathology of Vaccination and its Protective Influence from Small-pox." 1858: "Analytical and Critical Review of the First Decennium of the Pathological Society of London." 1858: "Handbook of the Science and Practice of Medicine." This work reached a seventh edition. 1884: "On the Growth of the Recruit and the Young Soldier." A second edition of this work has been since published. 1885: "On the Doctrine of Evolution in its application to Pathology." 1886: "On the Animal Alkaloids." 1892: The first volume of the "Descriptive Catalogue of the Pathological Museum at Netley," already adverted to, is now in print and will shortly be published.

DR. ENRICO TANFANI.

SELDOM has a career of such promise been so sadly extinguished as that of this young and exceptionally able medical man. Dr. Tanfani had recently graduated, but even in his student days he had justified the brightest expectations already formed of him and was, as soon as he was eligible, appointed assistant to Professor Caruel in the Istituto di Studi Superiori at Florence, where he had passed through a scientific and professional curriculum with unusual credit. He had also been promoted to a mastership in the Collegio Militare of Florence and was gaining the esteem and affection of a constantly increasing *clientèle* when he was overtaken by the accident that so prematurely cut short his life. A proficient, it appears, in the art of fencing, in which the Italians have long held a lead, he had lately succeeded to the post of President of the Circolo Fiorentino di Scherma (Florentine Fencing Club), and on the evening of June 14th he was engaged in a match with a very capable antagonist. All at once Dr. Tanfani gave a cry of pain and fell to the ground bathed in blood. His opponent, in making a lunge with considerable force, had not seen that his foil had lost its button and so the blade penetrated deeply into Dr. Tanfani's breast. He was conveyed at once to the Arcispedale di St. Maria Nuova hard by and found to be in a desperate condition. Every care that skill and devotion could lavish on him was taken, but he lingered only a few hours, dying of internal hæmorrhage in the presence of his mother, the Countess Tanfani, and near relatives. The funeral took place on June 17th and was accompanied by a long train of colleagues and friends to the cemetery, where the body was afterwards cremated. His chief, Professor Caruel, made touching allusion in a brief *oraison funèbre* to his estimable qualities and to his career of promise arrested almost on the threshold and was followed in similar strain by more than one speaker, among them a pupil of the deceased. Every profession in Florence was represented by the mourners, the majority being equally divided between the medical school and the military college, with both of which Dr. Tanfani was officially connected.

Medical News.

UNIVERSITY OF DUBLIN.—The following degrees were conferred last week:—

Bachelor in Medicine, Surgery, and Obstetrics.—**J. Barcroft Anderson, William Bleasby, Robert James Coulter, Arthur James Cree, Charles Chatterton Deane, John Elliott, George Gower Fannin, Montagu Lawrence Griffin, Richard Henry Kennan, Sam. Mathews, Frederick Wm. Staunton, Charles Elrington Stokes, J. Thompson, Alfred Ernest Wales, Claude Ernest Wellington Wilmot.**

Doctor in Medicine.—**Theodore Bell, Joseph Blood, Rudolph Arthur Colston Burns, Harloe Henry Fleming (*In absentiâ*), Richard Lane Joynt, Richard Frederick McCraith, Thomas Myles, Brendan McCarthy, Robert William Henry Jackson, Richard Dancer Purefoy, Alfred Ernest Wales.**

METROPOLITAN OPEN SPACES.—At a meeting held on the 23rd ult., at the Harlesden Court-house, it was unanimously resolved to recommend the Willesden Local Board to purchase Roundwood Park for a public recreation ground.

THE RETFORD DISPENSARY AND COLLEGE HOSPITAL.—The annual report for the past year shows that in the dispensary department 690 patients' tickets were issued and the cases attended to and eighteen hospital cases were treated. The financial position continued satisfactory; the balance in hand was £85 11*s.* 9*d.* in excess of the previous year.

NEW SOUTH WALES.—Active measures have been taken to organise a Sanitary Institute in Sydney; membership will be open to medical practitioners, sanitary engineers and architects. The object of the movement is to promote attention to all matters relating to sanitation.—A new Cottage Hospital of three wards with six beds has been opened at Walcha.

SOCIETY FOR THE STUDY OF INEBRIETY.—A quarterly meeting will be held in the rooms of the Medical Society, 11, Chandos-street, Cavendish-square, London, W., on Tuesday afternoon, July 5th, at 4 o'clock, the president, Dr. Norman Kerr, in the chair. Paper—"The Urgent Need for Improved Legislation for Inebriates"—H.. W. Williams, M.D.

CAMBRIDGE UNIVERSITY.—Dr. Anningson and Mr. Robinson, M.A., will deliver a course of practical instruction in Hygiene at the Cambridge University during the long vacation, 1892. The course, commencing on July 9th, will consist principally of practical instruction in the sanitary examination of water, air and foods, chemically and microscopically, having special regard to the requirements of medical officers of health.

ROSE SHOW AND FLORAL FÊTE.—At the Mansion House on Friday afternoon, June 24th, H.R.H. the Princess Christian, accompanied by Princess Victoria of Schleswig-Holstein, opened a grand show and floral fête in the presence of a numerous gathering. The exhibits comprised one of the most magnificent collections of flowers ever got together in the city. The Lady Mayoress presided over the chief stall and the wives of the two sheriffs performed similar functions, Mrs. H. S. Foster being energetically seconded by Mrs. Edgar Jenkins, Lady Monckton, the Countess of Bective, Mrs. Frank Grimwood and Mrs. Soulsby, and many other ladies attended the stalls they had so generously decked and the Prince of Wales sent a large consignment of roses and carnations from Sandringham.

BEQUESTS AND DONATIONS TO HOSPITALS.—The late Mr. E. M. Bainbridge, of Eshott Hall, Felton, bequeathed £1000 each to the Fleming Memorial Children's Hospital, the Newcastle Dispensary and the Newcastle Infirmary.—Miss Mary Henderson, late of Berkeley Villa, Windsor-road, Southport, bequeathed, free of legacy duty, £1000 each to the Southport Infirmary, the Convalescent Hospital, Southport, and the Tumour Hospital, Rodney-street, Liverpool.—The Salters' Livery Company recently voted £52 10*s.* each to the Royal London Ophthalmic Hospital, Moorfields, Guy's Hospital and the New Mildmay Medical Mission Hospital.—Baron Hirsch has forwarded a further donation of £300, making a total contribution of £1000, to the Middlesex Hospital.—The Grocers' Livery Company has granted £100 to the National Hospital for Consumption, Ventnor.—The late Mr. A. Burr, of Halesowen, bequeathed £4000 to the General Hospital and £1000 to the Queen's Hospital, Birmingham.—Mr. Arthur Brooks, of St. Dunstan's-hill, London, has forwarded a donation of £500 to the Manchester Infirmary.—The late Mr. Robert Lock, of Blandford, bequeathed £1000 to the endowment fund of the Blandford Cottage Hospital.—Under the will of the late Mr. Peter Atrell, of Tredegar-square, Bow, his executors have recently distributed the following sums—namely, £2500 each to the London Hospital, the City of London Hospital for Diseases of the Chest and the East London Hospital for Children, £2000 to the Poplar Hospital and £1200 to the Royal Hospital for Incurables.—The Rev. C. A. Johnson, of Newbury, bequeathed £1000 to the Royal Hospital for Incurables, Queen Victoria-street, London.—Mrs. Eliza F. Ashton, late of Montacute-gardens, Tunbridge Wells, left by her will £250 to the Tunbridge Wells General Hospital and £100 to the Convalescent Hospital for Children, Hawkenbury, Tunbridge Wells.—The executors of the late Mr. R. A. Newbon have transferred to the trustees of the Great Northern Central Hospital £13,491 12*s.* 8*d.* Consolidated Stock (£15,000 less duty), being the amount of Consols bequeathed by the deceased to endow a ward, to be named the Newbon ward. This sum is only available for the maintenance of the ward.—We learn from Mr. Cheston, the chairman of the East London Hospital, that Baron Hirsch, who had already given £700 to the East London Hospital for Children at Shadwell, supplemented this handsome donation by a further sum of £300, which he presented on the occasion of opening the new out-patients' department of that institution by the Duchess of Portland on June 11th.

HEAVY DAMAGES AGAINST A FRENCH JOURNALIST. Judgment was given on June 30th in the action for libel brought by Mr. Miltor, of the Kasr el Aini Hospital, against the French journal *Bosphore*, which published a violent attack on the English doctors and surgeons connected with the hospital. The court awarded the plaintiff £1000 damages, and ordered the insertion of the judgment in the *Bosphore* and two other papers.

WEST LONDON HOSPITAL, HAMMERSMITH.—Sir Algernon Borthwick, M.P., presided at the festival dinner in aid of this institution, which took place at the Hôtel Métropole last week. In proposing "Prosperity to the West London Hospital," the chairman stated that the hospital was founded in 1856 and during the thirty-six years of its existence 18,000 in-patients and upwards of half a million out-patients had been relieved at a cost of £143,000. The annual expenditure for maintenance and management was £6100. The present accommodation (101 beds) was now quite insufficient and efforts are being made to establish a wing to double that number. The land had been secured, but £40,000 is required for purposes of the building. Donations and subscriptions amounting to £2600 were announced.

CHARING-CROSS HOSPITAL MEDICAL SCHOOL.—Mr. J. Passmore Edwards presided at the distribution of prizes and certificates which took place at Charing-cross Hospital Medical School on Wednesday, the 29th ult. Proceedings were commenced by the Dean (Mr. Stanley Boyd), who read the annual report of the committee, from which it would appear that the annual increase in the number of students is maintained, whilst some valuable additions to the teaching staff of the school have also been made. In the honours list this year occur the names of Mr. G. H. Hooper, who took the Llewellyn Scholarship of £25; of Mr. D. P. Gabell, who secured the Golding Scholarship of £15, in addition to the prize for Practical Chemistry and certificates for both Anatomy and Physiology. The prizes for Practical and Forensic Medicine were awarded to Mr. W. T. White. The chairman pointed out the important position occupied by this hospital in the event of accidents, so many of which occurred in its immediate vicinity. "Charing-cross was the centre of London," he remarked, "London was the centre of English enterprise and England was the centre of the civilised world." A vote of thanks to the chairman, proposed by Sir Joseph Fayrer, concluded the proceedings.

MEDICAL NOTES IN PARLIAMENT.

The Scarlet Fever Case at Fulham.

IN the House of Lords, on June 23rd, Lord Sandhurst called attention "to the circumstances of the case of a child named Emily Williams, who was removed by order of the magistrate of the West London Police-court from the Middlesex Hospital to the West London Fever Hospital, under the idea that she was suffering from scarlet fever, although the said child had been for six days in the Middlesex Hospital, where there are plenty of means for isolation; and the child was in good health, with no signs of scarlet fever, according to two highly experienced physicians and other medical men." His lordship described at considerable length the details of the case. As to Dr. Cayley, he said he was a distinguished expert in fever. He went down to see the case out of pure philanthropy. He had no expectation of receiving any fee whatever. He saw the child and came to the strong conclusion that it had no symptoms of scarlet fever. He remarked that in the circumstances there was no need for the child going to the Fever Hospital, but that it should be taken to the Middlesex Hospital, where it would be attended to if scarlet fever should appear. Dr Cayley said to the receiving officer that he would be obliged if he took the child in; there was a dispute as to whether it was a case of scarlet fever. It must occur that in a general hospital sometimes a patient was taken in ailing from something which eventually became scarlet or other fever and there was ample provision made in these general hospitals for such a case. As to the remarks of the magistrate he did not think that Dr. Cayley's reputation was likely to suffer owing to what he (Lord Sandhurst) must term the intemperate remarks of the police magistrate. This gentleman said he would like to know what the hospital authorities and the people who subscribed to the charity would say and what course the College of Physicians would take. The board of the charity immediately passed a vote of confidence in Dr. Cayley and he (Lord Sandhurst) would be very glad to defend Dr. Cayley's conduct in taking the child into his own wards. More than that, he had had the opportunity of talking with the President of the College of Physicians, Sir Andrew Clark, and he said that Dr. Cayley was one of the most highly esteemed Fellows of the College and undoubtedly one of the highest authorities in London with regard to fever. He desired further to call the attention of their lordships to the question of the legality of the action of the magistrate. The Act provided that wherever there had not been isolation the child or other patient might be removed by order of the magistrate, but this patient was in a hospital where, as he had said, there was ample means of isolation and where the patient could

be as well treated as in the Fever Hospital itself. The magistrate said that in future he would grant these orders on the certificate of the medical officer of health without allowing any discussion whatever. Surely this was a tremendous power to put in the hands of a medical officer of health, who would practically issue all these orders himself. He would like to ask whether a medical officer of health with this large population to attend to should be allowed to continue in private practice. He understood that a petition had been presented for an inquiry into this case and he desired to support it. He very much feared that if a careful inquiry were made they would see this Act, which was intended for the benefit of the whole community, extremely unpopular and made almost unworkable. In conclusion, he might say he had taken up the matter in the public interest and he hoped the Government would give it their careful consideration.—Lord De Ramsey, one of the Lords in Waiting, replied on behalf of the Government. There was, he remarked, hardly anything that the noble lord had said, with the exception of a matter with which he would deal presently, as to the magistrate—there was hardly anything in which he could not most cordially sympathise with the noble lord. This had been in many ways a bad case and certainly it had been a very sad case; and he thought the very fact that the noble lord had brought it forward in this temperate way, knowing, as they all did, that he was chairman of the hospital and that a large part of his time was devoted to its work, would of itself do a great deal of good. As regards the medical officer of health taking private practice when he had the supervision of this large population, he could not own to have an opinion upon that. He was not prepared to answer that point. It was a point, however, that had not been raised in connexion with this case. With regard to what the noble lord had said towards the close of his remarks as to the effect that action taken in this case might have upon the working of the Act, he (Lord De Ramsey) thought he was perfectly justified and right. If, as the noble lord said, the authority wielded under the provisions of the Act, which was the London Public Health Act of last year, was arbitrarily to tear these children away from their parents, those children being subject to great differences of opinion amongst doctors, then he (Lord De Ramsey) said it was only another case where it was most absolutely necessary to exercise the supreme control of the Home Office to keep these officials in order. The noble lord knew of course that the medical officer of health had to be very careful in these matters. He had to take in time any cases of contagion which might spread rapidly into disease and cause much misery, but at the same time there was no question about it that when, as in this case, there was much difference of opinion amongst most competent men upon both sides, then he could not but think that although the diagnosis of the case might have been difficult, still it would have been more advisable for the medical officer of health to have paused a little, especially with such a weight of evidence against the child having scarlet fever at all. He desired to speak with the utmost caution as to the magistrate. The Secretary of State had not had the benefit of hearing the magistrate's views upon this case, as he was away on leave of absence, and he was sure his noble friend would not wish him to make any remarks without having been able to hear what the magistrate had to say. The unfortunate part of this business certainly arose in a local dispute, which undoubtedly was intensified by the mother's refusal to allow her child to go. In passing he would say that, although of course the mother behaved wrongly, at the same time she behaved most naturally, and one could not help regarding her action with some amount of sympathy. The noble lord wished to know whether there were means for isolation in the West London Fever Hospital. His reply was that there was every facility for isolation in that institution. He did not think he had anything to add.—The Earl of Kimberley said he was sure his noble friend (Lord Sandhurst) had not exaggerated at all the importance of this case. There was nothing more dangerous or more to be deprecated than the unwise administration of these somewhat arbitrary laws. He entirely approved of the laws of public health, but they must administer these laws carefully and judiciously. The point he did not at all understand in this case was how the magistrate could come to a decision that this child should be removed. He could not conceive upon what ground an order could be made for the removal of a child who was in a house where there were proper means of isolation. As to the magistrate's conduct generally, he agreed with the noble lord that they should exercise the greatest caution in speaking of magistrates in the discharge of their duty. One could only form a view from the report in the newspapers. But this he would say, that he was extremely glad that the Home Office had agreed to make an inquiry and if they should find, after the explanation of the magistrate, that he had at all acted in the manner represented by the newspapers, he (Lord Kimberley) hoped the Home Office would in some way or other endeavour to prevent such vagaries in the future. On the other hand, he wished to state that perhaps the magistrate's explanation might clear him of all blame.—Their lordships then proceeded to the next business.

Casual Wards Bill.

Although this Bill passed through the House of Commons without opposition, the Government withdrew it when it reached the House of Lords. The withdrawal is understood to be due to the action of certain officials of local authorities, who brought before the President of the Local Government Board a number of practical objections.

The Royal Assent.

The Royal Assent was given by Commission on Monday to the following measures, which have passed both Houses of Parliament: Technical and Industrial Institutions Act, Contagious Diseases (Animals) Act, Galway Hospital Act, London Water Act, Bradford Corporation Waterworks Act, Swansea Corporation Water Act, Lanarkshire Middle Ward District Water Act, Birmingham Corporation Water Act, Exmouth and District Water Act, Pontypridd Burial Board Act, and Uttoxeter Water Act.

METROPOLITAN WATER-SUPPLY.

IN continuation of the report of the evidence given by Dr. Edward Frankland, D.C.L., LL.D., F.R.S., before the Royal Commission on the Metropolitan Water-supply on June 21st, which appeared in our last issue, we give further evidence tendered by Dr. Frankland, setting forth his reasons why in his opinion the river Thames ought to be abandoned as soon as practicable for the supply of London. Witness gave detailed evidence as to the analyses of the Thames water after filtration.

Professor Dewar: So that you are not prepared to say that that water could not be treated for the purpose of a town supply?—Well, I think that opens up the whole question whether a river like the Thames, which receives even untreated sewage and a great deal of treated sewage, can be made into a perfectly safe water-supply, and I should not like to say that I consider that there is sufficient safety in the operations to which it is subjected before delivery to make it a perfectly safe water for a community to drink. I think you ought to have two or three lines of defence against the propagation of zymotic disease in the case of water supplied to a large community. We have already suffered in London by being too lenient in that respect. When we took the water from between the bridges we had a fearful epidemic of cholera in consequence.—Then I may put it in this way: If you are not to be satisfied by 99 per cent. of the micro-organisms being removed by filtration, what would you recommend or where would you go in order to get a supply that would be satisfactory to your mind?—Go to the springs in the Thames basin and to deep wells to be sunk in the chalk and oolite and sometimes perhaps into the lower greensand. These waters I consider to be perfectly safe, if supplied to London even without filtration.—I will read that very admirable description of the varying conditions of the Thames in a report signed by yourself and also by Dr. Odling as early, I think, as the year 1868, and you will please say if you agree with it now: "It is indeed evident that the Thames, in its flow from its source to Hampton, is constantly undergoing changes, now tending to purification, now to pollution; here it receives a tributary purer than itself and here is one more polluted; at one place it is pent up by a weir and flows sluggishly over a thick stratum of putrescent mud, then it dashes down the weir and flows as a rippling stream over a clean, pebbly bed, becoming aerated to the maximum; now it receives the sewage of a town and then it is reinvigorated by a gush of spring water in its bed, and these complicated changes are not merely affecting successive individual volumes of water as they flow on, but these volumes immediately afterwards lose their individuality, owing to the varying velocity of flow in different parts of the river section. No series of analyses, therefore, however great the number of samples or care bestowed on their collection, could, in the case of such a river as the Thames, illustrate exactly the changes produced in a stream by any one of the numerous causes of change above enumerated—the effect of the population residing on the banks for instance." Is that your opinion still?—It is.

In reply to Sir G. B. Bruce, witness stated that, while there was no positive proof that the filtered water is unwholesome, the lives of a large community ought not to be dependent on the efficient filtering plant of commercial companies. Under present circumstances a serious epidemic of typhoid fever or cholera in the Thames basin above the intakes would be attended with great risk to the water drinkers of London. Such experiments should not be tried on large communities. Before the cholera outbreak of 1849 it was believed that Thames water, abstracted between bridges in London, was perfectly safe, as testified by the evidence of many eminent experts, but that belief cost London 25,000 lives in 1849 and 1854.

Dr. Ogle: You say that it is uncertain how far the numerous cases of zymotic disease occurring in the metropolis are traceable to the water-supply. I suppose you do not mean to imply that there is any doubt upon the subject as regards a considerable number of zymotic diseases—for instance, measles, scarlet fever, whooping-cough?—No, there is no evidence whatever that they are ever communicated through water, although there is no evidence that they are not.—No; but there was no reason to suppose that they are from anything we know is there?—Well, I believe that the virus of the zyme of scarlet fever is thought by competent authorities to be communicated through milk.—Which comes from cows that are affected with a certain disease?—Yes.—But through drinking water?—No, I do not think there is any evidence of it at all.—Then there is no risk?—I have never seen it even suggested that either scarlet fever, measles, or whooping-cough were communicated or communicable through water.—Have you ever seen it suggested by any bacteriological authority?—No, I do not think any of those have even suggested it.—Then which are the zymotic diseases to which you refer?—The bacillus of typhoid fever, the bacillus of erysipelas, although you must remember that several of these have never been found in drinking water. If they can live for a number of days in drinking water, it is possible they may be communicated.—But that is the only ground—the possibility of its living in water—on which you base your statement, is it not?—Yes; except in the case of typhoid fever and in the case of cholera, they have actually been found.—Those are, I think, the only two diseases that have ever yet been known to be communicated by drinking water among the zymotic diseases?—Yes, I think so, where it has been demonstrated.—That is typhoid fever and cholera?—Yes. But, taking the capability of living in river water, I should say that the bacillus of tuberculosis was probably most likely to be present in drinking water.—I am aware that the bacillus of tubercle has been said to live for seventy days in water, but it has never been known to be communicated to human beings by means of water?—No, it has not been demonstrated.—Then practically we may dismiss tuberculosis from the list of those which there is any risk of London suffering owing to drinking water from the Thames or Lea?—Yes, certainly; so far as our knowledge at present extends we have no right to presume it is ever so communicated.—Quite so; and, in fact, we come back to the two diseases practically being typhoid fever and cholera?—Yes, and those are the only two diseases that have been demonstrated to be communicable by water.—And as regards cholera bacillus, I think I understood you to say just now that where it was in river water, which contains a large number of competing microbes, it is soon destroyed?—Yes, that is the result of experiments made with this bacillus in river water.—So that the water that passes for any distance down the river, though it might have some cholera germs at the beginning, would soon have lost them?—Yes, that is very likely, at all events.—I think you are wrong in your recollection about the dejection of the man that you referred to who was working there for a very long time. You meant one man?—Yes, one man. The evidence that came to me at the time was that as a rule the dejections of the workpeople down those wells are brought up in buckets and that one bucket on being brought up was tipped over and some of its contents went into the well. I do not know how far that is true or not.—At any rate, that was not water from the Thames or the Lea?—No; it is not river water.—So far as any argument is to be drawn from that case at Caterham it would be that there is no greater safety in water derived from deep wells than

in water from rivers, because there you have a great outbreak of typhoid fever caused by water which you have repeatedly spoken of in your report as of the very highest quality?—Yes.—And of exceptional purity in this case?—Yes. No doubt great care ought to be taken in these cases when workmen are engaged in these wells.—But the Caterham case cannot be in any way cited as telling against the wholesomeness of the Thames and Lea water?—No, I am not putting it on all fours with what would occur in any river. In the first place we must remember that the water as it exists in the well is absolutely free from microbes, therefore the typhoid microbe might have it all its own way there.—I would ask you whether the fact, supposing it to be a fact, that towns which have drank filtered water from those rivers suffer very little from typhoid fever is not evidence that such water is wholesome?—No, I do not think it is conclusive evidence that typhoid fever is not in some cases, if not in all, conveyed to them by water. Take London, for instance. I never thought that it was impossible that the typhoid fever existing in London continually is not propagated and brought to London, in part, at all events, by the water-supply of London.—But there have been a great many inquiries into typhoid fever outbreaks in London and are you aware that any one was ever traced to the drinking water from the Thames or the Lea?—I think it would be quite impossible to do so.—There have been many traced to milk?—Yes.—But you are not aware that ever any were traced to water?—No; I cannot imagine how it could be done, supposing there were ten times as many cases. You see the Thames water is distributed all through London.—It would be possible, would it not, supposing it was given by the Lea river and not by the Thames, that you would then find a huge outbreak attacking all those areas in which the Lea water was distributed and avoiding all those districts to which the Thames water was delivered?—Yes; if the Lea were exceptionally polluted by typhoid fever sewage there ought to be a difference in the number of cases of typhoid fever in the New River district of the East London Companies; but then I am not aware that that has ever really been investigated.—Do you not think that it is evidence that the filtration of this water has rendered it wholesome, or that it was wholesome before it was filtered, one or the other; that the death-rate from typhoid fever in London in the last twenty years has been lower than in the country at large?—Yes, and it has been very much lower than it used to be in London.—It has been lower all over the country?—Yes, it used to be very much higher than it is now and the lowering has been coincident with the great improvement in the filtration in the water delivered in London, though I do not mean to say that the one is necessarily the cause of the other.—But that lowering has gone on concomitantly with a lowering in the rest of the country?—Yes.—But has not that also been coincident with the improvement in the water-supply?—It may have been possible.—But at any rate the death-rate in London from typhoid fever being lower than that in the country at large is, so far as it goes, evidence that the water which the Londoners consume is not such as is likely to give typhoid fever?—Yes, I think it is decidedly a piece of evidence in favour of the water.—Then, in the face of that, do you think you could maintain the opinion you have expressed that there is not a tittle of trustworthy evidence in support of the view that the filtration of water is effective as a safeguard?—I do not say that there is not evidence that it is a safeguard, but I say there is no evidence of the impossibility of those zymotic germs passing through the filters; that is what I mean. There is no tittle of evidence to show that a pathogenic germ cannot pass through a filter. I do not consider that we have any positive evidence that water which is contaminated with typhoid fever poison becomes absolutely free from it after the same filtration given to it by the water companies can be absolutely free from every risk.—Is the filtration at present adopted and carried out by the London water companies to your mind as perfect as it can possibly be?—I think it is very satisfactory; I do not mean to say that if the filtered water were not passed through a second filter you might still further reduce the number of microbes, but it is exceedingly satisfactory filtration to my mind.

Professor Dewar: Have you had the opportunity of studying the bacteriological condition of a filter when it is most efficient in artificial filtration?—No; I have not. I intend to do so, but have not been able to do so up to the present moment.—Do you know that sterilised sand would be useless for the purification of these waters?—Yes, I do know that.—Therefore the efficiency of the artificial filter depends upon the life of a number of these micro-organisms?—I think it is very likely to be so.—I dare say you are quite aware that it is quite in harmony with the most recent investigations with regard to nitration?—Yes.—And you would regard it as a proof that the organic matter was being apparently attacked by the increase in the amount of nitrates?—Yes.—Consequently we know that the increase in the amount of nitrates is entirely due to microbic action?—Yes.—Therefore the efficiency of the artificial filtration is the result of microbic action?—Yes, certainly, one part of it is; but I am not at all certain from these experiments that there is not also some surface action in the case of a sand filter. When you have fresh sand and, if you like, sterilised sand you would still remove some organic matter from the water.

Sir A. Geikie: Before you leave that I would like to ask you whether you have observed any difference between water taken from a new filter and water taken from one that has been in use for some time with regard to microbes?—That is exactly the problem I am setting myself to establish now, but it has not yet been done.

Professor Dewar: You cooperated with Dr. Klein in this investigation as to the supply, at any rate, and you were in consultation with him on the bacteria in London water?—Yes, last year I determined the number of microbes, but it was Dr. Klein alone who attempted to distinguish them. He was supplied once a week for six consecutive weeks with sealed tubes of the London water.—You are aware of this passage in Dr. Klein's report: "In a good many instances the colonies or their sub-colonies were tested on animals, in order to ascertain whether they possessed pathogenic action or whether some of them at first sight have been taken for animal action connected with a certain amount of pathogenic bacteria." That was what you recommended in the evidence this morning, that it was necessary definitely to infect animals?—Certainly.—Dr. Klein also states: "Before proceeding further to the details of the result, I may state that in no case have I come across any of the known pathogenic bacterial species or of any species that produce on the animals experimented upon—guinea-pigs, mice and rabbits—definite pathogenic action." You are aware of that?—Yes.

Sir A. Geikie: We shall be very pleased indeed when you have completed those investigations if we can have the result of them.

Dr. Frankland: I shall take care that they are placed in the hands of the Commission.

The Commission adjourned till Monday.

On Monday Dr. George Turner, M.B., D.P.H.Camb., Medical Officer of Health for the Counties of Herts and Essex combined, Lecturer on Hygiene at Guy's Hospital and Examiner on State medicine at the Royal College of Physicians and Surgeons, gave evidence as to the pollution of the river Lea and also instances in which the river water had produced typhoid fever. He disagreed with Dr. Frankland in supposing that the non-pathogenic bacteria, the innocent bacteria, fed upon the pathogenic bacteria, so that the presence of a large number of them was distinctly an advantage. That depended entirely upon the sort of microbe organism that happened to be present in the water. Some of them do certainly destroy others.

On Tuesday Mr. Shirley Forster Murphy, Medical Officer of Health of the County of London, stated the results of his investigations made of the pollutions of the Thames and the Lea. Speaking with reference to the protective measures adopted by the water companies for the purification of the water, witness added: "I may, however, submit that, even if it is admitted that polluted streams may, after running some distance, become purified, there is no definite knowledge as to the point where danger ends and safety begins and rivers receiving excremental pollutions must therefore be regarded with some misgiving as sources of public water-supply."

Mr. William Joseph Dibdin, Fellow of the Institute of Chemistry and Chemist to the London County Council, also gave the results of his investigations with regard to the composition of the water supplied to London, after which the Commission adjourned until Wednesday, July 20th.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at Midnight on June 28th, 1892.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases.	Total.	
Eastern Hospital	335*	66	..	23	..	424	432
North-Western Hospital	311	75	..	5	..	391	411
Western "	145	23	..	9	5	182	224
South-Western "	258	38	..	4	2	302	348
South-Eastern "	359	14	1	10	..	384	424
Northern "	655	21	..	..	..	676	732
Totals	2063	237	1	51	7	2359	2821

* Infant and mother.

SMALL-POX. *Atlas* hospital ship, 35; *Castalia*, 22. Total, 57.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BACK, H. H., M.B. Lond., M.R.C.S., has been appointed Medical Officer for the No. 5 Sanitary District of the Aylsham Union, vice Reeve, deceased.

BARRATT, J. O. W., M.D. Lond., F.R.C.S., has been appointed Medical Officer at the Infirmary, Parish of Birmingham.

BETTS, F. BERNARD, M.R.C.S., L.R.C.P., has been appointed Resident Medical Officer to Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.

BROWNING, GEORGE, M.R.C.S., has been reappointed District Medical Officer and Medical Officer of Health for the Wertley Union.

CAMPBELL, A., M.B., C.M. Glasg., has been appointed Medical Officer for the Ratcliffe-on-Trent Sanitary District of the Bingham Union.

CARTER, A. H., M.D. Lond., M.R.C.S., has been appointed Medical Officer at the Infirmary, Parish of Birmingham.

DE HAILES, A. J., has been appointed Public Analyst for the Borough of Luton, vice Redwood, deceased.

DUNN, E. D., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Public Vaccinator for the District of Motueka, New Zealand.

ENGLISH, JOSEPH, L.R.C.P., L.R.C.S. Edin., has been appointed Visiting Surgeon to the Gaol at Yass, also Government Medical Officer and Vaccinator for the District of Yass, New South Wales.

FENWICK, W. SOLTAU, M.D. Lond., M.R.C.P., has been appointed Physician for Out-patients to the Evelina Hospital for Sick Children.

FERGUSON, A. A., L.K.Q.C.P., L.R.C.S. Irel., has been appointed Medical Officer of the Workhouse, Aston Union.

FRANCIS, H. A., M.B. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Government Medical Officer at Barcaldine, Queensland.

GORDON, J. M., M.B., C.M. Glasg., has been appointed Resident Medical Officer to the Melbourne Hospital, Victoria, Australia.

HICHENS, FRANK, M.D. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Urban Sanitary District of the Redruth Union.

JAMIESON, SYDNEY, M.B., C.M. Edin., has been appointed Honorary Pathologist to the Sydney Hospital, New South Wales, vice Rennie, resigned.

JEWELL, J. W. F., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Physician to Guy's Hospital.

KENDALL, H. W. M., M.R.C.S., has been appointed Surgeon Superintendent to the Westland Hospital, Hokitika, New Zealand.

MANN, J. DIXON, F.R.C.P., has been appointed to the Professorship of Medical Jurisprudence now instituted at Owens College, Manchester.

MARSH, JAS JOHN, L.R.C.P., L.R.C.S., L.M., has been appointed Medical Officer to the Post-office, Ormskirk.

MAUDSLEY, H., M.D. Lond., M.R.C.P., has been appointed Honorary Physician to the Alfred Hospital, Melbourne, Australia, vice Thomson, resigned.

MCNICOLL, JOHN, L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer to the Poole and Parkstone Post-offices.

MORITZ, S., M.D., M.R.C.P. Lond., has been appointed Honorary Physician to the Manchester Hospital for Consumption and Diseases of the Throat and Chest.

NAPTHINE, G. J., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Health Officer, Stawell Borough, Northern and Western Wards, and the Stawell Shire, North and West Ridings, Australia.

NASH, CHAS., M.R.C.S., has been appointed Medical Officer of Health for the Rural Sanitary District of the Catherington Union, vice Strong, resigned.

RAKE, A. T., M.B., B.S., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to Guy's Hospital.

ROBERTS, E. T., M.D., C.M. Edin., has been appointed Certifying Surgeon under the Factory Acts, vice A. Roberts, resigned.

RUTHERFORD, J. J., M.D. St. And., L.R.C.P. Edin., L.F.P.S. Glasg., has been reappointed Medical Officer of Health for the Shipley Urban Sanitary District.

SALTER, C. E., M.B., B.S., L.R.C.P. Lond., M.R.C.S., has been appointed House Physician to Guy's Hospital.

SAMUELSON, G. S., M.B., C.M. Edin., has been appointed Government Medical Officer and Vaccinator for the District of Gundagai, New South Wales.

SHORT, T. S., M.D. Lond., M.R.C.S., has been appointed Medical Officer at the Infirmary, Parish of Birmingham.

SMYTH, T. E., M.D., B.Ch. Dub., has been appointed Government Medical Officer and Vaccinator for the District of Campbelltown, New South Wales.

SNADDEN, JAS., M.B., C.M. Edin., has been reappointed Medical Officer of Health for No. 1 and No. 4 Sanitary Districts of the Wortley Union.

SPARK, J., M.R.C.S., has been appointed Government Medical Officer and Vaccinator for the District of Katoomba, New South Wales.

SPOWART, THOS., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer of Health for the Second Sanitary District of the Wortley Rural District.

SYMONS, J. G. R., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Shepperton Sanitary District of the Staines Union.

TEBBS, W. H. A., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to Addenbrooke's Hospital, Cambridge.

THOMAS, A., M.B., B.S., L.R.C.P. Lond., M.R.C.S., has been appointed House Physician to Guy's Hospital.

TOSSWILL, J. CECIL, M.B., C.M. Edin., has been appointed Visiting House Surgeon to the Infirmary, Stockport, vice Hamilton, resigned.

VALENTINE, T. H. A., L.R.C.P. Lond., D.P.H., M.R.C.S., has been appointed a Public Vaccinator for the District of Inglewood, New Zealand.

WALLACE, RICHD., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Public Vaccinator for Millicent, South Australia.

WAUGH, ISAAC, M.B., M.Ch. Dub., has been appointed Medical Superintendent of Government Asylums for the Infirm and Destitute at Parramatta, New South Wales.

WESTWOOD, H. O., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Bingham Sanitary District of the Bingham Union, vice Wotton, resigned.

WILKINSON, E. W. C., L.F.P.S., L.M. Glasg., has been appointed Public Vaccinator for the District of Rangitikei, New Zealand.

WINGRAVE, V. H. WYATT, M.R.C.S., L.S.A., has been appointed Assistant Surgeon to the Central London Throat and Ear Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

ANCOATS HOSPITAL, Manchester.—Resident Junior House Surgeon. Salary £50, with board and washing.

BOROUGH OF SCARBOROUGH.—Medical Officer of Health for the district of the borough for one year. Salary £325 per annum.

BRISTOL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £100, with rooms and attendance.

CHURCH OF SCOTLAND (JEWISH MISSION).—Medical Missionary, for the Mission and Hospital at Smyrna. Salary £300, or £250 with dwelling-house. (Apply to J. A. Frail, Esq., W.S., 17, Duke-street, Edinburgh.)

COLONIAL HOSPITAL, Perth, Western Australia.—Resident Medical Officer and Assistant to the Superintendent of Vaccination. Salary £200 a year, with quarters in the hospital and board (excepting wines &c.). Passage out provided, conditionally. (Apply to the Agent-General for Western Australia, 15, Victoria-street, Westminster, London, S.W.)

EAST LONDON HOSPITAL FOR CHILDREN, Glamis-road, Shadwell, E.—House Physician. Board and lodging provided.

EAST LONDON HOSPITAL FOR CHILDREN, Glamis-road, Shadwell, E.—House Surgeon. Board and lodging provided.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark-bridge-road S.E.—Junior Resident Medical Officer. Salary £50.

FAREHAM UNION.—Medical Officer and Public Vaccinator for the Southwick District. Salary £60 per annum, exclusive of extra medical and vaccination fees. (Apply to the Clerk to the Guardians, Union Offices, Fareham, Hants.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, W.—Registrar and Pathologist. Honorarium 25 guineas per annum.

MCGILL UNIVERSITY, Montreal, Canada.—Professorship of Pathology for the Faculties of Medicine and Comparative Medicine for one year. Salary for provisional appointment for one year £400 sterling. (Apply to the Dean, Montreal, Canada.)

PARISHES OF WESTRAY AND PAPA WESTRAY, Orkney.—Medical Officer and Public Vaccinator. Salary as Medical Officer £70 sterling per annum.

PAROCHIAL BOARD OF PENNYGOWN AND TOROSAY, N.B.—Medical Officer. Salary from Board £100, cost of paupers' medicines included. (Apply to the Inspector of Poor of Torosay, Auchnacraig, by Oban.)

PONTYBERAN AND PENTREMAWR WORKMEN AND THE NEIGHBOURHOOD.—Qualified Medical Man. (Apply to Mr. Jones, Cook's Bridge, Pontyberan, near Llanelly, South Wales.)

QUEEN'S HOSPITAL, Birmingham.—Physician for Out-patients and Pathologist to the Institution for three years. Annual honorarium £75.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months. Honorarium of £10 10s. conditionally.

ROYAL LONDON OPHTHALMIC HOSPITAL, Moorfields, E.C.—Senior House Surgeon. Salary £75 per annum, with board and residence.

ROYAL UNITED HOSPITAL, Bath.—House Surgeon. Salary £60 per annum, with board, lodging, and washing.

STAINES UNION RURAL SANITARY AUTHORITY.—Medical Officer of Health. Salary £75 per annum.

ST. PANCRAS.—Dispenser for the Infirmary at Dartmouth Park-hill, Highgate, N.W. Salary £100 per annum, rising £10 annually to £120, with dinner daily. (Apply to the Clerk, Vestry-hall, Pancras-road, N.W.)

STOCKPORT INFIRMARY.—Junior House Surgeon for six months, with board and residence. Honorarium of £10.

WIRRAL CHILDREN'S HOSPITAL, Wood-church-road, Birkenhead.—Resident House Surgeon. Salary £50 per annum, with board, lodging on the premises, and washing.

WOLVERHAMPTON EYE INFIRMARY.—House Surgeon. Salary £60 per annum, with rooms, board, and washing.

Births, Marriages, and Deaths.

BIRTHS.

DUKES.—On June 26th, at Sunnyside, Rugby, the wife of Clement Dukes, M.D., B.S. Lond., of a son.

NANKIVELL.—On June 20th, at Langham-street, W., the wife of Herbert Nankivell, M.D., of a daughter.

WALKER.—On June 23rd, at Rocklands, London-road, St. Leonards-on-Sea, the wife of Alexander Walker, M.D., of a son.

WISE.—On June 23rd, at Dunheved, Walthamstow, the wife of C. H. Wise, M.D., of a daughter.

MARRIAGES.

COCKILL—SEELY.—On June 29th, at St. Peter's, Cherry Willingham, Lincolnshire, William Baron Cockill, M.R.C.S., L.R.C.P. Lond., of Kendal, Westmoreland, to Edith Mary, third daughter of Mr. Robt. Seely, of Manningdale, Cherry Willingham.

CRAIG—AITKEN.—On June 23rd, at St. Saviour's Church, Bridge of Allan, William Maxwell Craig, M.B., Surgeon Royal Navy, to Janet Georgina, daughter of the late Archibald Robertson and widow of Stephen Rowen Aitken.

DUTHIE—MCLEAN.—On June 23rd, at St. Mary Abbots, Kensington, Robert Campbell Duthie, M.A., M.B., C.M., D.P.H., Croydon, to Eliza Douglas McLean, daughter of Alexander McLean, Esq., of Kensington.

FAULKNER—WEBB.—On April 20th, at St. Andrew's Parish Church, Brighton, Melbourne, William Cooke Faulkner, M.B., C.M. Edin., of the Hospital, Rockhampton, Queensland, to Ada, daughter of Captain T. Webb, of Melville, Brighton, Melbourne.

FISHER—DARLING.—On May 23rd, at St. Paul de Loanda, Walter Fisher, M.R.C.S., son of William Benjamin Fisher, of Greenwich, to Susannah Elizabeth Darling, daughter of J. S. Darling, of Clonakilty, Ireland.

LEE—MORGAN.—On June 22nd, at St. Philip's Church, Earl's-court, Edward Samuel Lee, M.D., M.R.C.S., St. Leonards-on-Sea, son of the late Dr. Robert Lee, F.R.C.P., F.R.S., to Fanny Caroline, widow of the late Captain Morgan, 4th Battalion Royal Fusiliers, and elder daughter of the late Thomas Huggins, Esq., of Collingham-road, South Kensington.

PRICE-JONES—EYSSEN.—On June 22nd, at St. Mark's, Surbiton, Dr. Cecil Price-Jones, of Surbiton, son of the late William Price-Jones, M.D., to Helen Louise, youngest daughter of Gottfried Eyssen, of Surbiton.

DEATHS.

AITKEN.—On June 25th, at Woolston, Southampton, Sir William Aitken, M.D., F.R.S., Professor of Pathology, Army Medical School, Netley, aged 67.

BARR.—On June 23rd, suddenly, at Bembridge, Isle of Wight, William Alexander Barr, M.D., aged 70.

FRASER.—On June 23rd, at St. Helen's-road, Swansea, Thomas Alexander Fraser, M.D., M.R.C.S., eldest son of Surgeon-General John Fraser, C.B., aged 31.

HARMER.—On June 10th, at Alton Lodge, Richmond, Robert Harmer, M.D., aged 63.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

BOOKS ETC. RECEIVED.

BAILLIÈRE, TINDALL, & COX, King William-street, Strand, London.
The Surgical Diseases and Injuries of the Stomach and Intestines. By F. B. Jessett, F.R.C.S. 1892. pp. 327.

BLAKISTON, SON, & Co., Philadelphia.
Diagnosis by the Urine. By Alfred Memminger, M.D. Illustrated. 1892. pp. 77.

CHURCHILL, J. & A., New Burlington-street, London.
Diseases of the Rectum and Anus. By A. Cooper, F.R.C.S., and F. S. Edwards, F.R.C.S. Second Edition. Illustrated. 1892. pp. 324.
Handbook of Hygiene and Sanitary Science. By George Wilson, M.A., M.D., F.R.S. Edin., D.P.H. Camb. Seventh Edition. 1892. pp. 751. Price 12s. 6d.

CASSELL & Co., London.
A Manual of Chemistry. By A. P. Luff, M.D. Lond. Illustrated. 1892. pp. 525.

DAVIS, G. S., Detroit, Mich.
The Electro-Therapeutics of Gynæcology. By A. H. Goelet, M.D. Parts I. and II. Illustrated. 1892.

DORNAN, Philadelphia.
Transactions of the American Orthopedic Association. Fifth Session, September, 1891. Vol. IV. pp. 403.

HARRISON & SONS, St. Martin's-lane, London.
Notes and Queries on Anthropology. Edited by J. G. Garson, M.D., and C. H. Read, F.S.A. Second Edition. 1892. pp. 242. Price 5s.

KEGAN PAUL, TRENCH, TRÜBNER, & Co., London.
The Life of Francis Duncan, C.B., R.A., M.P., late Director of the Ambulance Department of the Order of St. John of Jerusalem in England. By the Rev. H. B. Blogg, M.A. With Introduction by the Bishop of Chester. 1892. pp. 160.

LONGMANS, GREEN, & Co., London.
The Essentials of Histology. By E. A. Schäfer, F.R.S. Third Edition. Illustrated. 1892. pp. 302. Price 7s. 6d.

MEYERS, E. K., Harrisburg, U.S.A.
Fourth, Fifth, and Sixth Annual Reports of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania.

OLIVER & BOYD, Edinburgh.
A Thousand Cases of Pulmonary Tuberculosis, with Etiological and Therapeutic Considerations. By R. W. Philip, M.A., M.D., F.R.C.P.E. 1892. pp. 22.

REEVE, L., & Co., Henrietta-street, Covent-garden, London.
The Physiology of the Invertebrata. By A. B. Griffiths, Ph.D. F.R.S. Edin., F.C.S. 1892. pp. 477.

SMITH, ELDER, & Co., Waterloo-place, London.
Dictionary of National Biography. Edited by Sidney Lee. Vol. XXXI. Kennett—Lambart. 1892. pp. 448.

STANFORD, EDWD., Cockspur-street, Charing-cross, London.
Transactions of the Sanitary Institute. Vol. XII. 1891. With Appendix.

TAYLOR & FRANCIS, Red Lion-court, Fleet-street, London.
Descriptive Catalogue of the Specimens illustrating Morbid Anatomy and Pathology in the Museum of Westminster Hospital. By Chas. Stonham, F.R.C.S. 1892. pp. 404.

The Climatologist; edited by J. M. Keating, M.D., and others; Vol. II., May, 1892 (W. B. Saunders, Philadelphia).—Publications of the University of Pennsylvania: Philosophical Series; edited by G. S. Fullerton and J. McK. Cattell; No. II., May, 1892 (University of Pennsylvania Press, Philadelphia).—University of London: The Calendar for the year 1892–93. Part I.: Charters, Regulations, &c.; and Part II.: Examination Papers, 1891–92 (Harrison and Sons, London).—The Ophthalmic Review; edited by J. B. Lawford and others; No. 128, June, 1892 (J. & A. Churchill, London); price 1s.—Healthy Households; by Guy C. Rothery (J. S. Virtue & Co., Paternoster-row, London, 1892); price 1s.—The Dwellings of the Poor: Report of the Mansion House Council for the year 1891 (Cassell and Company, London, 1892); price 1s.—The Official Gazette of the United States Patent Office, May, 1892 (Government Printing Office, Washington).—Census of Jamaica and its Dependencies, taken on the 6th April, 1891 (Government Printing Office, Kingston, Jamaica).—British Journal of Dental Science, No. 586, June, 1892 (J. P. Segg & Co., Regent-street, London); price 6d.—Transactions of the Obstetrical Society of London; Part I., for January and February, 1892 (Office of the Society, 20, Hanover-square, W.); price 4s.—Practical Sewage Purification (Cuthbertson and Black, Manchester, 1892).—A Series of Fifty Consecutive Operations for Cataract; by R. L. Randolph, M.D. (Reprint from the Johns Hopkins Hospital Bulletin, No. 20, March, 1892).—The School of Teachers' Ophthalmic Guide; by G. Ferdinands' M.D., C.M. (Wyllie and Son, Aberdeen, 1892); price 6d.—Die Quantitative Pulsanalyse; von Paul von der Mühll (J. B. Hirschfeld, Leipzig, 1892).—Die Traumatischen Neurosen; nach den in der Nervenklinik der Charité in den 8 Jahren 1883–1891; von Dr Herm. Oppenheim (August Hirschwald, Berlin, 1892).—Tidsskrift for den Norske Lægeforening, Juni, No. 6, 1892 (Alb. Cammermeyers, Christiania og Kiobenhavn).—The Infliction of the Death Penalty by Means of Electricity, being a report of seven cases; by C. F. MacDonald, M.D. (D. Appleton and Company, New York, 1892).—The Journal of the College of Science, Imperial University, Japan; Vol. V., Part I. (Published by the University, Tokyo, Japan, 1892).—Index Medicus: Authors and Subjects; Vol. XIV., No. 5, May, 1892 (Trübner & Co., and Lewis, London).—Proceedings of the Society for Psychical Research; Part XXI., June, 1892 (Kegan Paul, Trench, Trübner and Co., London); price 2s. 6d.—Magazines for July: Sunday at Home, Leisure Hour, Boy's Own Paper, Boy's Out-door Games and Recreations, Girl's Own Paper, Girl's Own Out-door Book (Religious Tract Society), The Strand.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 30th, 1892.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Dry Bulb	Wet Bulb	Solar Radiation in Vacuo	Maximum Temp. Shade.	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
June 24	29·98	W.	60	55	121	75	50	·69	Hazy
,, 25	29·99	W.	60	57	108	72	53	..	Cloudy
,, 26	30·07	W.	63	58	123	80	57	..	Cloudy
,, 27	30·15	N.W.	66	62	126	81	60	..	Cloudy
,, 28	30·15	W.	68	63	106	83	58	..	Hazy
,, 29	29·84	S.W.	61	59	101	63	59	·58	Cloudy
,, 30	30·33	S.W.	57	52	117	71	48	..	Hazy

Notes, Short Comments & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

THE POLICY OF THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS.

Mr. W. T. Law's letter on this point is too long for insertion, and more especially because it is written with an imperfect knowledge of the subject. The lack of organisation on the part of the Fellows is the fault of the Fellows themselves, who have only to join the Association in order to direct its policy and secure all the privileges which they can possibly desire. The resolutions on which the Association was founded were drafted and proposed by Mr. Paul Swain and only referred to the Fellows of the College; but at the first general meeting at the College the Members so far outnumbered the Fellows that it was found that it would be impossible to carry the resolutions unless the words "and Members" were introduced into three of them. At all the general meetings of the College, owing to the Fellows and Members being summoned indiscriminately by the Council, the experience has been the same; and this fact made it necessary for the committee of the Association some years ago to endeavour to settle the claims of the Members. A compromise was effected, but the Members' Association did not adhere to it. They went beyond it and raised a strong antagonism against their claims amongst the Fellows of the College and in the Association itself, which naturally determined to devote its energies entirely to advancing the interests of the Fellows. This policy has been steadily pursued for the last few years and that it has been successful will be seen in the pages of the Report of the Association just issued, which we recommend our correspondent to peruse, believing that his views will undergo considerable modification afterwards. He should also peruse the first account, published in 1890. Mr. Tweedy is a staunch champion of the claims of the Fellows to a larger share in the government of the College and by returning him to the Council the Fellows will do much to remedy the disappointment which is felt by our correspondent in regard to the "so-called advantages about to be granted to the Fellows by the Council." So far as they go these advantages are due in large part to the action of THE LANCET and of the Association; and in proportion to the support accorded to the Association by Fellows like our correspondent will the advantages and privileges of the Fellows increase. The Association returned one of its candidates last year and as its influence is extending there is every reason to anticipate Mr. Tweedy's success on the present occasion.

Weekly Reader.—The bill sent us (intended for exposure in chemists' windows and other public places) seems to us objectionable. We quite recognise our correspondent's wish not to disregard the wholesome rules of professional life.

FEATS OF A FAKIR.

AT Bologna one of those mysterious devotees or fanatics who impose on themselves penances of the most painful, often revolting, kind has been exhibiting before wondering assemblies a series of marvels which Professor Albertoni of the University had no difficulty in exposing as tricks. The professor, in a physiological lecture delivered *ad hoc*, took the first incidents of the fakir's performance, those of swallowing venomous *reptilia* and causing serpents of a known poisonous family to bite him—both without harm to himself. Redi had long ago demonstrated that the introduction of noxious creatures into the stomach may be practised with impunity, the gastric juice being quite adequate to antagonise them. Again, Professor Albertoni showed his audience how the bite inflicted on the fakir by a poisonous snake may be quite innocuous if certain precautions were taken. The poison of the animal is secreted by a glandule and has its exit from an orifice which opens at the apex of the tooth. This orifice is effectually plugged by making the animal bite wax and so the fakir allowed himself to be bitten thereafter with impunity. Yet again, the poison after even one effective bite is completely evacuated from the tooth and so, having bitten sundry objects repeatedly, the animal has for the rest of the day none of its poison available, till this is once more matured and secreted by the glandule. In this way the fakir might expose himself to any number of secondary bites without danger. The insensibility and "invulnerability" to which the fakir had inured himself is also susceptible of physiological explanation. Professor Albertoni had no difficulty in demonstrating to his hearers the dependence of sensibility on the cerebral cortex and how by practice and special long-continued exercise the sensibility may be first wrought up to its most exquisite point and then exhausted, till for a time it is virtually abolished. This temporary suspension of sensibility the fakir promoted or assisted by exposing himself to the vapours of particular herbs, while also going through a series of motions—mesmerising himself, in fact. In this way he had by "auto-suggestion" trained himself to lapse into a state of lethargy, suppressing the function of the cerebral cortex and inducing an insensibility which he represented as invulnerability. Professor Albertoni's interesting lecture is, we believe, to be printed for the benefit of a wider and non-professional public.

A.—Our correspondent's paper is receiving attention and will appear, if possible, in an early number.

MEDICAL AID ASSOCIATIONS.

To the Editors of THE LANCET.

SIRS,—The tone and tenour of several questions put to Dr. Martin of Stourport when before the General Medical Council are the excuses for this letter. Probably it will interest the body of general practitioners and possibly the Medical Defence Union. The facts are culled from the last report of the Conference of the Friendly Societies' Medical Alliance, dated March 30th, 1891. Leamington, Ashford, Preston and Reading all had unqualified medical officers in their employ. At Ashford, at any rate, the unqualified man did about half the work—took the country round one week and town the next. Birmingham had a balance of £1441 16*s.* 1*d.*; Derby of £1911 15*s.* 7*d.* Is it profit or not? The Leicester Foresters' Society laconically state they have "twelve doctors." In reply to the gentleman who asked the week before last whether the agreements were binding, I beg to say I think they are; but some of the distances debarred are outrageous—seven miles—and could no doubt be successfully disputed on the general principle that no one can prevent a man's earning a living in a reasonable way. As one who has had two such appointments, my advice to any needing it is: Never seek such an appointment. Do not be allured by the salary. The work is hard; the position, without plenty of backbone and numerous fights with a committee probably of twenty-five men (some of whom it would puzzle to write their names), is servile and the petty annoyances innumerable, and worse, it is difficult to get any ordinary berth after holding such a one.

I am, Sirs, yours truly,

June 27th, 1892. H. W. D.

LONGEVITY AMONG ABSTAINERS.

Two correspondents direct our attention to the respective mortality of the General Section and the Temperance Section of the Sceptre Life Association as shown in the twenty-seventh annual report for the last eight years. The number of lives under observation is over 12,000. The results are as follows:—

	Expected deaths.	Actual deaths.	Percentage.
General Section	794	620	78 08
Temperance	367	204	55 58

THE GREENING OF PEAS.

Dr. Russell (Glasgow).—We have ascertained that there is no enactment under the French law which prohibits the use of copper salts for giving a green colour to vegetables, just as there is no restriction on the import of tinned greened vegetables. But the law says makers of such goods are answerable for any injury that may be caused to health by the consumption of articles coloured with poisonous salts.

NEWSPAPER PUFFS OF MEDICAL MEN.

THE *Globe* has a very dignified annotation on the unseemliness of such puffs. An eminent pianist, in the innocence of his heart, thought to do his physician a good turn by sending a little paragraph the round of the papers praising his skill and success. Our contemporary very properly declined to publish such stuff. It received a second paragraph of the same sort, and was equally firm, feeling that the science of medicine is "too noble to be degraded to the level of rival soap-boilers." We thank the *Globe* for the stand it so properly takes, and trust other contemporaries will take note of this example and follow it.

B. B.—The Local Government Act of 1888 provides that no person shall after Jan. 1st, 1892, be appointed the medical officer of health of any county, or of any such district or combination of districts, as contained according to the last published census for the time being a population of 50,000 or more inhabitants unless he is legally qualified for the practice of medicine, surgery, midwifery and also is either registered in the Medical Register as the holder of a diploma in sanitary science, public health, or State medicine under Section 21 of the Medical Act, 1886, or has been during three consecutive years preceding the year 1892 a medical officer of a district or combination of districts with a population according to the last published census of not less than 20,000, or has been before the passing of the Local Government Act for not less than three years a medical officer or inspector of the Local Government Board. Our correspondent will observe that these requirements only relate to districts having more than 50,000 inhabitants at the time of the last published census.

ANTIDOTES TO ANÆSTHETIC NARCOSIS.

To the Editors of THE LANCET.

SIRS,—In cases of chloroform narcosis, such as that reported by Mr. Jordan Lloyd in THE LANCET of to-day's date, I would strongly recommend oxygen gas inhalation. Impressed with its great value in Sir H. Davy's case of carbo-hydrogen poisoning in the Hotwells' Hospital, I included it amongst the antidotes for anæsthetic narcosis in my book, "Anæsthetics, Ancient and Modern." During the past two years I have frequently used the oxygen gas in cases of asphyxia and always found it a reliable, quick-acting remedy. Messrs. Fannin of this city manufactured for me an efficient and inexpensive apparatus for its administration. I am, Sirs, yours truly,

Dublin, June 25th, 1892. GEORGE FOY, F.R.C.S.I.

THE VALUE OF MASTICATION.

DR. LAUDER BRUNTON, in the course of a recent lecture on Mastication at St. Bartholomew's Hospital, made use of the following remarks:—"I think it was a magnificent stroke of genius on the part of the President of the Royal College of Physicians, Sir Andrew Clark, when he informed Mr. Gladstone that he had one mouth and thirty-two teeth and that for every mouthful of food he took every tooth should have a chance, so that he should take thirty-two bites to every mouthful. And," continued Dr. Brunton, "if the patient has lost some of his teeth he should allow two bites for every missing tooth and even that will not always do if many teeth have gone."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. A. G. Auld, Glasgow; Mr. W. Anderson, London; Mr. Atkinson, Sherborne; Mr. Buss, Hendon; Mr. Bourke, Wolverhampton; Dr. Lauder Brunton, London; Mr. T. B. Browne, London; Messrs. Blondeau et Cie., London; Mr. Baron, Manchester; Messrs. Burroughs and Wellcome; Mr. W. Bingham; Dr. E. Blake; Messrs. Boulton and Paul, Norwich; Dr. J. H. Brock; Dr. H. J. Branson; Mr. H. Hamilton Brindle, Manchester; Mr. Browne London; Mr. Bullock, London; Dr. Cane, Peterborough; Mr. Carlewer, Newnham; Messrs. Condy and Mitchell, London; Dr. Creighton, London; Mr. Clark, West Brighton; Mr. Cornish, London; Mr. Connop, Chamounix; Sir Joseph Crow, Paris; Mr. Denven Clark, Orpington; Sir W. Dalby, London; Col. Dulier, London; Dr. Dudfield, London; Mr. E. Ducretet, Paris; Dr. Emin, London; Mr. Edmunds, London; Messrs. Evans, Son, and Co., Liverpool; Mr. C. Elliot; Messrs. Ellgood and Fuller, London; Mr. Ford, Devonport; Mr. G. Foy, Dublin; Dr. Fitzpatrick, London; Mr. Grainger, Chester; Mr. Gunn, Kilmarnock; Messrs. Griffin and Co., London; Professor Gairdner, Glasgow; Mr. Griffith, Milford Haven; Mr. Greenish, London; Mr. J. D. B. Gabble, Hyderabad; Mr. Hulme, Birmingham; Mr. Hornibrook, London; Mr. Reginald Harrison, London; Mr. Hirschfield, Berlin; Mr. Hasnell, South Shields; Dr. Hitchcock, Wilts; Mr. Heal, Edinburgh; Mr. Holmes, Derby; Dr. A. Haig; Mr. Howe, Preston; Mr. Jamison, Ebbw Vale; Dr. Kelso, Southsea; Dr Kelynack, Manchester; Messrs. Keith and Co., Edinburgh; Mr. A. A. Kanthack; Messrs. Kegan Paul and Co., London; Dr. Kerr, London; Mr. Arbuthnot Lane; Messrs. Lloyd and Co., Leicester; Mr. Lowndes, Liverpool; Mr. F. C. Lynde, Manchester; Mr. Mansell Moullin; Mr. Moore, Littleport; Mr. Mason, Hull; Mr. U. S. Manning; Mr. G. Martindale, Liverpool; Mr. Jas.

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LETTERS, *each with enclosure*, are also acknowledged from—Mr. Smith, Streatham; Miss Clark, Wolverhampton; Mr. Carleton, Newnham-on-Severn; Mr. Elliott, Sheffield; Mr. Cameron, Bristol; Mr. Butler, Harlesden; Mr. Eccles, Derby; Mons. Barbier, France; Mr. James, Cwmavon; Dr. Gill, Formby; Mr. Billiard, Kington; Messrs. Benson and Co., London; Mr. Walker, Stenhousemuir; Messrs. Cleave and Sons, Crediton; Mr. Style, Hucknall Huthwaite; Messrs. Salamon and Co., Essex; Mr. Malcolm, Southampton; Mr. Woodcock, Boston Spa; Mr. Harkin, Belfast; Mr. Hirst, London; Messrs. Bryce and Rumpff, London; Mr. Powers, Cumberland; Mr. Williams, Higher Tranmere; Mr. Westmorland, Manchester; Mr. Jackson, Winchmore Hill; Mrs. Levick, Paris; Dr. Heatly, Cardiff; Messrs. Stocks and Crossman, London; Mr. Atkinson, Bristol; Mr. Livingstone, Inverness; Mr. Gilyard, Bradford; Miss Manley, Croydon; Dr. Thomson, Norwich; Mr. Howe, Ellesmere; Mr. Burrows, London; Mr. Clegg, Windermere; Mr. Rozer, Bournemouth; Mr. Hilliar, Birchington-on-Sea; Mr. Jones, Llanelly; Mr. Norman, Devon; Dr. McAdam, Edinburgh; Mr. Perrott, Liverpool; Mr. Brook, Swansea; Mr. Fitzgerald, Cork; Mr. Debenham, Herts; Mr. Trail, Edinburgh; Mr. Haycock, Alfreton; Mr. Offord, Bradford; Mr. Thin, Edinburgh; Mr. Darby, Middlesbrough; Mr. Thompson, Doncaster; Mr. Fitzgerald, Queenstown; Dr. Land, Newcastle; Mr. Fiske, Maidstone; Dr. Steedman, Hucknall; Dr. Buckland, London; Dr. Court, Chesterfield; Mr. Tyte, Minchinhampton; Mr. Buxey, Southampton; Messrs. Llewellyn and Thomas, Cardiff; Messrs. Humphreys, London; Messrs. Curry and Paxton, London; Mr. McLaurin, Glasgow; Mr. Hitchcock, Market Lavington; Mr. Sutherland, Bangor; Mr. Heywood, Manchester; Mr. Kershaw, Manchester; Mr. Davidson, Ballymena; Mr. Clark, Wolverhampton; Owner, Chelsea; Barham, London; Corporation of Salford; X. Y. Z., Southend-on-Sea; Ajax, London; Carden, Old Swindon; L. M. N., London; Home, London; Yawl; A. W., West Kensington; Surgeon, London; T. W., Audley; Eucalyptus; 78, Mile End-road; Cradock, London; Broughton, London; Medicus, Bournemouth; Medicus, London; Sigma, London; E. W., London; Nomen, London; M.R.C.S., Weymouth; Gerald, Cheshire; Medicus, Margate; Scapula, London; S. H., Holbeach; Hector, London; E. H., Stratford; Surgeon, Kilburn.

NEWSPAPERS.—*Bradford Observer, Montreal Gazette, Sydney Morning Herald, Melbourne Age, Leeds Mercury, Manchester Guardian, Madras Times, Birmingham Post, Amateur Gardening, Scarborough Evening News, Eastern Daily Press, Nursing Record, Express and Star (Wolverhampton), Clevedon Gazette, South Wales Daily News, Leicester Post, Woolwich Gazette, Cork Constitution, Guy's Hospital Gazette, Invention, Kentish Mercury, Elgin Courant, Le Temps (Paris), Carnarvon Herald, Hampshire Advertiser, Hoeart Mercury, Indian, Engineering, Torquay Times, Eastern Morning News (Hull), &c.*, have been received.

Medical Diary for the ensuing Week.

Monday, July 4.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.
NATIONAL ORTHOPÆDIC HOSPITAL (Great Portland-street, W.).—5 P.M. Mr. F. R. Fisher: Paralytic Deformities, Club-foot, &c.

Tuesday, July 5.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.
GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.

Wednesday, July 6.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.
OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Dr. John Phillips, Dr. Lewers, Mr. McAdam Eccles, Dr. De Vieux, Dr. Horrocks, and Mr. Bland Sutton. Dr. Herman: On Menstruation in cases of Backward Displacement of the Uterus.—Mr. W. A. Meredith: Two cases of Double Ovariotomy during Pregnancy.

Thursday, July 7.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

Friday, July 8.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8.30 P.M. Patients and Card Specimens at 8 P.M. Messrs. Collins and Cross: Implantation Cyst in Anterior Chamber after Cataract Extraction. Mr. Tatham Thompson: (1) Accidental Vaccinia of Eyelids; (2) Gumma of Episclera; (3) Rupture of Choroid; (4) Rodent Ulcer destroying Lower Eyelid and Eye; (5) Recurrent Sarcoma of Orbit.
WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital).—8 P.M. Special General Meeting. 8.30 P.M. Annual General Meeting. Retiring President's Address.

Saturday, July 9.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

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